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Water Resources Data for Pennsylvania

Part 2. Water Quality Records

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Prepared in cooperation with the Pennsylvania Department of Forests and Waters, the Philadelphia Water Department, and with other State, municipal, and Federal agencies

United States Department of the Interior
Geological Survey-Water Resources Division

WATER RESOURCES DATA FOR PENNSYLVANIA

1967

Part 2. Water Quality Records

Prepared in cooperation with

Pennsylvania Department of Forests and Waters
Pennsylvania Department of Agriculture
Soil Conservation Commission
Pennsylvania Department of Internal Affairs
City of Philadelphia
Corps of Engineers, U.S. Army
Department of the Army
Department of the Air Force

Copies of this report may be obtained from
District Chief, Water Resources Division
Fourth Floor Federal Building and
U.S. Court House
P. O. Box 1107
Harrisburg, Pa. 17108

Streamflow records for most of the water quality stations in this report are contained in:

Water Resources Data for Pennsylvania, 1967

Part 1. Surface Water Records

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[*Symbols after station name designate type of data: c, chemical; t, water temperature; s, sediment*]

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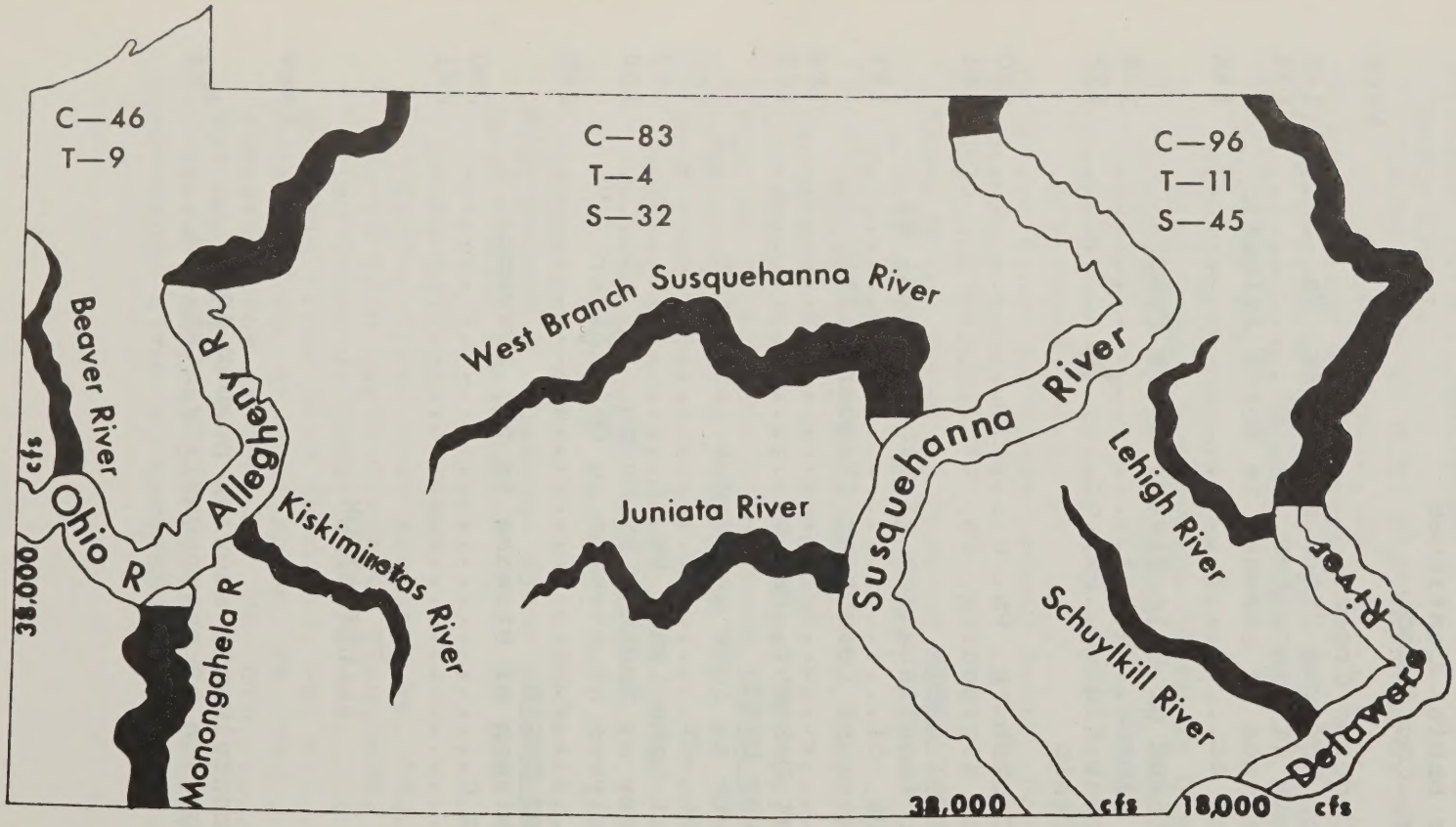
Figure 1. Map of Pennsylvania showing number and distribution of water-quality stations.... VI



EXPLANATION

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Letter symbols C, T, and S indicate chemical-quality, water temperature, and sediment stations, respectively, in operation during the 1967 water year; numerals indicate number of stations in operation.

Figure 1.--Map of Pennsylvania showing number and distribution of water-quality stations.

WATER RESOURCES DATA FOR PENNSYLVANIA, 1967

Part 2. Water Quality Records

INTRODUCTION

Water-resources investigations of the U.S. Geological Survey include the collection of water quality data on the chemical and physical characteristics of surface- and ground-water supplies of the Nation. These data for the 1967 water year for the quality of surface waters in Pennsylvania are presented in this report. Data for a few water quality stations in bordering States are also included. The data were collected by the Water Resources Division of the U.S. Geological Survey under the direction of N. H. Beamer, district chief.

Water quality information is presented for chemical quality, fluvial sediment, and water temperatures. The chemical quality includes concentrations of individual dissolved constituents and certain properties or characteristics such as hardness, specific conductance, and pH. Fluvial-sediment information is given for suspended-sediment discharges and concentrations and for particle size distribution of suspended sediment and bed material. Water-temperature data represent once-daily observations except for stations where a continuous temperature recorder furnishes information from which daily minimums and maximums are obtained.

The Geological Survey has published the annual series of water-supply papers, "Quality of Surface Waters of the United States," from 1941 through 1965 which contained the chemical quality, temperature, and suspended sediment data of the water. Each volume covered an area whose boundaries coincided with those of certain natural drainage areas. The records for Pennsylvania are contained in Parts 1 and 3 of the water-supply paper series (See table, p. 10.) These publications are available in most public libraries. Beginning with the 1964 water year, water quality records for surface water obtained by the Geological Survey were published in a new series

of annual releases on a state-boundary basis. This report is primarily for local and immediate use, and its distrubution is limited. These records will be published later in Geological Survey water-supply papers.

COOPERATION

The work was done under cooperative agreements between the U.S. Geological Survey and the following organizations:

State Department of Forests and Waters, M. K. Goddard, secretary, through the Water and Power Resources Board, C. H. McConnell, chief engineer.

State Department of Agriculture, L. H. Bull, secretary, through the Soil and Water Conservation Commission, C. F. Hess, director.

City of Philadelphia, J. H. J. Tate, mayor, through the Water Department, S. S. Baxter, commissioner and chief engineer.

DEFINITION OF TERMS AND ABBREVIATIONS

The terms and abbreviations of water-quality and hydrologic data, as used in the text and tabular data of this report, are defined as follows:

Cfs-day is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It equals 86,400 cubic feet, 1.983471 acre-feet, or 646,317 gallons.

Cubic feet per second (cfs) is a unit expressing rates of discharge. One cubic foot per second is equal to the discharge of a stream of rectangular cross section, 1 foot wide and 1 foot deep, flowing water at an average velocity of 1 foot per second.

Discharge, in its simplest concept, means outflow; therefore, the use of this term is not restricted as to course or location. In this report it represents the total fluids measured in the stream.

Daily mean discharge is the mean discharge for one day.

Mean daily discharge is the arithmetic mean discharge for the same day during a specific period of years.

Mean discharge is the arithmetic mean of individual daily mean discharges during a specific period.

Instantaneous discharge (at time of sampling). If the discharge at the time of sampling is reported instead of the daily mean, the heading of the discharge column is "Discharge (cfs)."

Drainage area is that area, in a specified location, measured in a horizontal plane, which is enclosed by a drainage divide.

Drainage basin is a part of the surface of the earth that is occupied by a drainage system, which consists of a surface stream or body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.

Equivalents per million (epm) is a unit for expressing the concentration of chemical constituents in solution in terms of the interreacting values of the electrically charged particles, or ions. One equivalent per million of a positively charged ion will react with one equivalent per million of a negatively charged ion. Parts per million is converted to equivalents per million by multiplying by the reciprocal of the combining weight of the ion. (See table, p. 4.)

Gage height is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the more general term "stage," although gage height is more appropriate when used with a reading on a gage.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of gage height or discharge are obtained. When used in connection with a discharge record, the term is applied only to those gaging stations where a continuous record of discharge is obtained.

Conversion factors: Parts per million to equivalents per million

Ion	Multiply by
Aluminum (Al^{+3})	0.11119
Ammonia as NH_2^{+1}	.05544
Barium (Ba^{+2})	.01456
Bicarbonate (HCO_3^{-1})	.01639
Bromide (Br^{-1})	.01251
Calcium (Ca^{+2})	.04990
Carbonate (CO_3^{-2})	.03333
Chloride (Cl^{-1})	.02821
Chromium (Cr^{+6})	.11539
Cobalt (Co^{+2})	.03394
Copper (Cu^{+2})	.03148
Cyanide (Cn^{-1})	.03844
Fluoride (F^{-1})	.05264
Hydrogen (H^{+1})	.99209
Hydroxide (OH^{-1})	.05880
Iodide (I^{-1})	.00788
Iron (Fe^{+3})	.05372
Lead (Pb^{+2})	.00965
Lithium (Li^{+1})	.14411
Magnesium (Mg^{+2})	.08226
Manganese (Mn^{+2})	.03640
Nickel (Ni^{+2})	.03406
Nitrate (NO_3^{-1})	.01613
Nitrite (NO_2^{-1})	.02174
Phosphate (PO_4^{-3})	.03159
Potassium (K^{+1})	.02557
Sodium (Na^{+1})	.04350
Strontium (Sr^{+2})	.02283
Sulfate (SO_4^{-2})	.02082
Zinc (Zn^{+2})	.03060

Hardness of water is the property of water attributable to the presence of alkaline earths and is expressed as equivalent calcium carbonate ($CaCO_3$). Hardness is a physical-chemical characteristic, not a substance.

Partial-record station is a particular site where limited data are collected systematically over a period of years for use in hydrologic analyses.

Particle size is the diameter, in millimeters (mm) of suspended sediment or bed material determined by sieve and sedimentation methods.

Particle size classification agrees closely with recommendations made by the American Geophysical Union Subcommittee on sediment terminology (Lane and others, 1947, p. 937). The classification is as follows:

Clay:	Smaller than 0.004 mm.
Silt:	Between 0.004 and 0.062 mm.
Sand:	Between 0.062 and 2.0 mm.
Gravel:	Between 2.0 amd 64.0 mm.

The particle-size distributions given in this report are not necessarily representative of the particle sizes of sediment in transport in the natural stream. Most of the organic matter is removed and the sample is subjected to mechanical and chemical dispersion before analysis of the silt and clay.

Parts per million (ppm) is a unit for expressing the concentration of chemical constituents by weight, usually as grams of constituents per million grams of solution. In the laboratory the results are expressed in weights of solutes in a given volume of water. To express the results in parts per million, the data must be converted. For most waters, this conversion is made by assuming that a liter of water weighs 1 kilogram; thus milligrams per liter is equivalent to parts per million. Parts per million, for suspended sediment, is computed as 1 million times the ratio of the weight of sediment to the weight of the mixture of water and sediment.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

Sediment discharge is the rate at which dry weight of sediment passes a section of a stream or is the quantity of sediment, as measured by dry weight, or by volume, that is discharged in a given time.

Solute is any substance derived from the atmosphere, vegetation, soil, or rocks and is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current and is expressed in micromhos per centimeter at 25°C. Because the specific conductance is related to the number and specific chemical types of ions in solution, it can be used for approximating the dissolved-solids content in the water. The following general relations are applicable:

Specific conductance x (0.65±0.05)=ppm dissolved solids;

$$\frac{\text{Specific conductance}}{100} = \frac{\text{total epm}}{2}$$

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff." Streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Thermograph is a thermometer that continuously and automatically records, on a chart, the water temperature of a stream. "Temperature recorder" is the term used to indicate the location of the thermograph.

Tons per day is the quantity of a substance in solution or suspension that passes a stream section during a 24-hour period.

Water year in Geological Survey reports dealing with surface water supply is the 12-month period, October 1 through September 30. The water year is designated by

the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1967, is called the "1967 water year."

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

STATION NUMBERS

A station number has been assigned as an added means of identification for each stream location where regular measurements of streamflow and determinations of water quality have been made. The numbers have been assigned to conform with the standard downstream order of listing gaging stations. The numbering system consists of 2 digits followed by a hyphen and a 6-digit number. The notation to the left of the hyphen identifies the Part or hydrologic region used by the Geological Survey for reporting hydrologic data. The number to the right of the hyphen represents the position of the location in the standard downstream order listing the stations within each of the parts. The assigned numbers are in numerical order but are not consecutive. They are so selected from the complete 6-digit-number scale that intervening numbers will be available for future assignments to new locations. The identification number for each station in this report is printed to the left of the station name and contains only the essential digits. For example, the number is printed as 1-4635 for a station whose complete identification number is 01-4635.00.

COLLECTION AND EXAMINATION OF SAMPLES

With the exception of samples collected in the Delaware estuary, water samples for chemical and physical

analyses usually are collected at or near points on streams where gaging stations are maintained by the U.S. Geolorical Survey for measurements of water discharge. Discharge records for streams in Pennsylvania have been released in the report "Water Resources Data for, Pennsylvania 1967, Part 1. Surface Water Records."

The map on page VI shows the distribution and number of stations in each river or drainage basin.

Solutes

The methods used by the Geological Survey for the collection of water samples and for the determination of the concentration of chemical constituents are described by Rainwater and Thatcher (1960). Samples collected at monthly and miscellaneous water-quality stations were analyzed individually. Daily specific conductance was determined on all daily sampling stations, and usually samples collected during the first 10 days of each month were composited and analyzed for chemical constituents.

In the Delaware estuary, special sampling procedures are used because the water quality varies in place, depth, and time. Changes of water quality in width, which varies from about 0.2 to 25 miles, at a particular sampling location, are studied by sampling at five points in the cross section; those in depth, by sampling top and bottom; and those in time, by the continuous recording of selected water-quality parameters--specific conductance, dissolved oxygen, pH, and turbidity.

Temperature

Measurements mostly periodic, of water temperature were made at all stream-gaging and partial-record gaging stations. However, only records for those stations where water temperature was measured continuously or on a daily basis are published in this report. At once-daily stations, water temperatures were taken at about the same time each day in order that the data would be relatively unaffected by diurnal variations. At stations where continuous water temperatures were recorded automatically (thermograph), the records consist of maximum and minimum temperatures for each day and the monthly averages of maximum daily and minimum daily temperatures.

Sediment

At some stations, suspended-sediment samples were collected daily with depth-integrating cable-suspended samplers from a fixed sampling point at one vertical in the cross section. A hand sampler was used at many stations during periods of low flow. Depth-integrated samples were collected periodically at many verticals in the cross section to determine the ratio of the cross sectional distribution of the concentration of suspended sediment to the daily sampling verticals. During periods of high or rapidly changing flow, samples were taken twice or more often throughout the day at most stations. For periods when no samples were collected, daily loads of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

In addition to the records of the quantities of suspended sediment, records of periodic measurements of the particle size distribution of the suspended sediment and the bed material are included.

WATER-SUPPLY PAPERS

The table below shows the annual series of Water-Supply Papers that give information on quality of surface waters in Pennsylvania. Data for the North Atlantic slope basins are given in part 1, and for the Ohio River basin, in part 3.

Water-Supply Paper Numbers and Parts, Water Years 1944-65

Year	Parts 1-4	Year	Parts 1-4	Parts 1-2	Parts 3-4
1944	A1022	1955	1400	----	----
1945	A1030	1956	1450	----	----
1946	A1050	1957	1520	----	----
1947	A1102	1958	1571	----	----
1948	B1132	1959	----	1641	1642
1949	B1162	1960	----	1741	1742
1950	1186	1961	----	1881	1882
1951	1197	1962	----	1941	1942
1952	1250	1963	----	1947	1948
1953	1290	1964	----	1954	1955
1954	1350	1965	----	C1961	C1962

A Parts 1-14.
B Parts 1-6.
C In preparation.

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WATER QUALITY RECORDS

NORTH ATLANTIC SLOPE BASINS

DELAWARE RIVER BASIN

1-4385. DELAWARE RIVER AT MONTAGUE, N. J. (MILFORD, PA.)

LOCATION.--Lat 41°18'30", long 74°47'50", at center of toll bridge on U.S. Highway 206, at Montague, Sussex County, 0.4 mile downstream from gaging station, and approximately 1.2 miles downstream from Saw Kill.
DRAINAGE AREA.--3,480 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1956 to September 1967.
Water temperatures: October 1956 to December 1957.
REMARKS.--Records of specific conductance and temperatures of daily samples for October 1956 to December 1957 available in subdistrict office at Philadelphia, Pa.
Continuous water-temperature, dissolved-oxygen, pH and specific-conductance records from May to October 1964 available in the district office at Trenton, N. J.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Lithium (Li)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Phosphate (PO_4)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color	Methylene blue active substances (MBAS)
																			Calcium, magnesium	Noncarbonate					
Oct. 19, 1966	2450	0.4		0.00	0.00	5.7	1.0	1.6	0.7		13	0	9.7	2.5	0.0	0.8	--	35	18	8		52	6.1	2	--
Jan. 16, 1967	2100	2.9		.00	.00	8.1	1.5	3.0	.8		16	0	15	4.0	.0	1.3	--	55	26	13		76	6.2	2	--
Feb. 14.....	2600	3.3		.00	.00	8.1	1.5	3.0	1.2		16	0	16	4.0	.0	1.2	--	60	26	13		78	6.2	2	--
Mar. 13.....	9580	3.6		.00	.00	8.1	1.5	3.0	1.0		11	0	17	5.0	.0	2.5	--	61	26	17		82	7.0	3	--
Apr. 18.....	8780	2.0		.02	.03	6.2	1.2	2.0	.6		12	0	12	3.0	.1	.5	--	35	21	11		62	6.4	5	--
May 16.....	14200	2.0		.02	.03	6.2	1.2	2.0	.6		12	0	12	3.0	.1	.6	--	35	21	11		60	6.9	5	--
June 13.....	2710	1.8		--	--	7.5	1.6	2.5	1.1		15	0	13	4.0	.0	2.0	0.07	46	25	13		71	6.8	6	0.02
July 18.....	2370	2.2		.00	.00	7.0	1.5	2.8	.6		19	0	9.6	3.4	.2	.8	.00	42	24	8		66	7.0	6	01
Aug. 15.....	2140	2.5		--	--	7.0	1.5	2.8	.6		17	0	12	3.7	.2	.5	--	55	24	10		75	7.0	6	--
Sept. 20.....	2340	1.5		.02	.00	7.5	1.4	2.7	1.0		16	0	12	5.7	.2	.0	.02	53	25	12		72	6.7	2	01

1-4400.9. DELAWARE RIVER NEAR EAST STROUDSBURG, PA.

LOCATION.--Lat 41°02'40", long 75°01'42", on right bank opposite Poxono Island, 0.1 mile upstream from mouth of Vancampens Brook, and 4.4 miles northeast of East Stroudsburg, Monroe County.
DRAINAGE AREA.--3,830 square miles, approximately.
RECORDS AVAILABLE.--Chemical analyses: October 1966 to September 1967.
Water temperatures: October 1966 to September 1967.
EXTREMES, 1966-67.--Specific conductance: Maximum daily, 92 micromhos, Oct. 10; minimum daily, 45 micromhos Mar. 30, 31, and Apr. 1-6.
Dissolved oxygen: Maximum daily, 14.6 ppm Mar. 9,10; minimum daily, 6.0 ppm Sept. 22.
Water temperatures: Maximum, 80°F June 12, 13; minimum, freezing point on many days during winter months.
REMARKS.--Records of discharge are given for Delaware River below Tocks Island Damsite, near Delaware Water Gap, Pa.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
																Calcium, magnesium	Noncarbonate				
Mar. 1, 1967...	3410	2.4		0.00	0.00	9.0	1.5	2.5	0.8	17	15	4.4	0.2	0.6	45	29	15		74	7.2	2
Aug. 10.....	6300	3.1		.02	.00	8.0	1.8	2.0	.8	20	12	3.3	.2	.7	49	28	11		69	6.9	14
Sept. 7.....	2380	2.7		.05	.02	17	1.8	2.4	1.1	47	13	3.1	.1	.2	65	50	12		106	6.9	7

1-4400.9. DELAWARE RIVER NEAR EAST STROUDSBURG, PA.--Continued

Specific conductance (micromhos at 25°C), dissolved oxygen, in parts per million, and temperature (°F) of water, water year October 1966 to September 1967

Day	OCTOBER									NOVEMBER								
	Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)			Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	* 83	79	80	9.6	9.2	9.3	57	55	56	79	72	75	11.7	11.1	--	48	46	--
2	82	77	78	10.1	9.2	9.7	56	54	55	77	76	76	11.4	10.6	11.1	49	46	48
3	77	77	77	10.3	9.7	10.0	56	54	55	75	71	73	10.9	10.3	10.6	51	49	50
4	78	77	77	10.4	9.5	10.0	57	55	56	70	68	69	10.3	10.3	--	49	46	48
5	82	78	80	10.1	9.2	9.6	58	56	57	70	68	69	--	--	--	46	45	45
6	90	82	86	10.4	9.2	9.8	57	55	56	69	68	68	11.5	11.0	11.2	45	44	45
7	90	90	90	10.6	9.5	10.0	57	54	55	72	69	71	11.9	11.2	11.5	45	43	44
8	90	87	88	10.9	9.6	10.2	57	53	55	75	70	72	12.0	11.3	11.6	46	45	46
9	90	87	88	10.8	9.5	10.1	58	54	56	75	70	72	11.4	10.8	11.1	48	47	48
10	92	86	89	10.1	9.3	9.6	58	57	--	73	72	72	11.0	10.3	10.7	52	48	50
11	90	89	89	--	--	--	--	--	--	72	70	71	10.8	10.1	10.4	53	51	52
12	90	83	86	10.5	9.7	--	55	53	--	71	69	70	10.9	10.3	10.5	52	51	52
13	83	82	82	10.9	9.7	10.3	55	52	53	70	68	69	11.3	10.4	10.9	51	47	49
14	84	82	83	10.8	10.1	10.4	55	53	54	71	69	69	12.0	11.1	11.5	47	45	46
15	82	82	82	10.7	9.7	10.2	57	54	56	72	72	72	12.3	11.5	11.8	45	43	44
16	82	82	--	9.7	9.6	--	57	56	--	72	71	72	12.2	10.6	11.4	43	41	42
17	--	--	--	--	--	--	--	--	--	71	68	70	12.7	12.0	12.2	43	42	43
18	--	--	--	--	--	--	--	--	--	69	67	68	12.4	11.6	12.0	44	43	44
19	--	--	--	--	--	--	--	--	--	69	68	68	12.4	11.6	11.9	44	43	44
20	--	--	--	--	--	--	--	--	--	68	68	68	12.7	11.8	12.3	43	40	42
21	61	60	--	--	--	--	--	--	--	70	68	69	13.3	12.2	12.7	40	38	39
22	63	61	62	--	--	--	--	--	--	70	68	69	13.5	12.4	12.9	39	37	38
23	68	64	66	--	--	--	--	--	--	71	70	70	13.7	12.7	13.2	37	35	36
24	70	68	69	--	--	--	--	--	--	72	69	70	13.7	12.9	13.2	37	35	36
25	70	66	68	--	--	--	--	--	--	69	69	69	13.7	12.5	13.1	39	37	38
26	70	68	69	--	--	--	--	--	--	76	69	71	13.4	12.0	12.7	42	39	41
27	76	70	71	--	--	--	--	--	--	75	72	73	12.9	11.6	12.1	43	41	42
28	77	74	75	--	--	--	--	--	--	78	75	77	11.8	11.1	11.5	44	42	43
29	73	70	71	--	--	--	--	--	--	77	72	75	11.4	11.0	11.2	44	43	43
30	76	72	74	--	--	--	--	--	--	78	70	75	11.5	11.1	11.3	43	41	42
31	76	74	75	--	--	--	--	--	--									
	DECEMBER									JANUARY								
1	78	71	76	11.8	11.5	11.6	41	40	40	78	75	77	13.3	13.0	13.2	32	32	32
2	76	73	73	12.1	11.6	11.8	40	37	39	78	76	77	13.2	13.0	13.1	32	32	32
3	72	71	72	12.7	12.0	12.3	37	33	35	76	74	75	13.3	13.0	13.1	32	32	32
4	72	69	70	13.3	12.8	13.1	32	32	32	76	75	76	13.2	13.0	13.1	32	32	32
5	71	71	71	13.6	13.1	13.4	32	32	32	77	74	75	13.3	13.0	13.1	32	32	32
6	71	71	--	13.1	13.1	--	32	32	--	74	72	73	13.4	13.2	13.3	32	32	32
7	--	--	--	--	--	--	--	--	--	77	72	74	13.5	13.3	--	32	32	--
8	--	--	--	--	--	--	--	--	--	74	73	74	13.4	13.1	13.2	32	32	32
9	--	--	--	--	--	--	--	--	--	75	73	74	13.5	13.1	13.3	32	32	32
10	--	--	--	--	--	--	--	--	--	75	74	75	13.5	13.3	13.4	32	32	32
11	--	--	--	--	--	--	--	--	--	77	75	76	13.7	13.5	--	32	32	--
12	--	--	--	--	--	--	--	--	--	77	75	76	13.6	13.4	13.5	32	32	32
13	--	--	--	--	--	--	--	--	--	79	77	78	13.6	13.4	--	32	32	--
14	65	63	65	12.7	12.4	12.6	36	35	36	78	76	77	13.4	13.2	13.3	32	32	32
15	64	60	63	13.0	12.6	12.8	36	35	36	77	75	77	13.5	13.1	13.2	33	32	32
16	63	61	62	13.3	12.9	13.1	35	34	34	77	76	77	13.5	13.2	13.3	33	32	32
17	64	61	63	13.5	13.0	13.2	34	33	33	79	76	78	13.7	13.4	13.5	32	32	32
18	66	64	65	13.4	12.9	13.1	35	34	35	78	77	78	13.9	13.5	13.6	32	32	32
19	66	64	65	13.2	12.8	13.0	36	33	35	80	78	79	14.1	13.8	--	32	32	--
20	68	66	67	13.3	13.0	13.1	34	32	33	81	80	80	14.0	13.8	13.9	32	32	32
21	68	66	67	13.5	13.1	13.3	33	32	32	81	80	80	13.9	13.5	13.7	32	32	32
22	70	68	69	13.6	13.3	13.4	32	32	32	80	79	80	13.7	13.4	13.6	33	32	32
23	71	67	69	13.6	13.2	13.4	32	32	32	82	79	80	13.7	13.2	13.5	33	32	33
24	75	70	71	13.5	13.3	13.4	32	32	32	82	79	81	13.6	13.2	13.4	34	32	33
25	76	73	74	13.5	13.3	13.4	32	32	32	81	80	80	13.3	13.0	13.2	35	34	35
26	78	75	76	13.5	13.1	13.3	32	32	32	79	74	78	13.0	12.7	12.8	36	34	35
27	79	76	77	13.4	13.1	13.2	32	32	32	73	61	67	12.8	12.6	12.7	35	33	34
28	80	77	79	13.6	13.3	13.4	32	32	32	61	58	60	12.6	12.5	12.6	35	35	35
29	80	76	78	13.5	13.2	13.3	32	32	32	64	60	63	12.7	12.5	12.6	35	33	34
30	81	78	79	13.2	13.0	13.2	32	32	32	64	62	63	13.1	12.8	13.0	33	32	33
31	78	76	77	13.3	13.1	13.2	32	32	32	73	62	64	13.3	13.0	13.2	32	32	32

* Beginning of record

1-4400.9. DELAWARE RIVER NEAR EAST STROUDSBURG, PA.--Continued

Specific conductance (micromhos at 25°C), dissolved oxygen, in parts per million, and temperature (°F) of water, water year October 1966 to September 1967--Continued

Day	FEBRUARY									MARCH								
	Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)			Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	65	65	65	13.2	13.1	13.2	33	32	32	80	80	80	13.4	13.2	--	32	32	32
2	70	65	66	13.1	13.0	13.1	34	33	34	80	80	80	--	--	--	32	32	32
3	70	65	68	13.2	12.9	13.1	34	33	33	80	80	80	--	--	--	33	32	32
4	70	65	67	13.3	13.2	13.3	32	32	32	80	80	80	--	--	--	33	32	33
5	70	70	70	13.2	13.0	13.1	34	32	33	80	80	80	--	--	--	33	32	32
6	70	70	70	13.2	12.9	13.0	34	33	34	80	80	80	--	--	--	33	32	32
7	70	70	70	13.4	13.3	13.4	33	32	32	85	80	81	--	--	--	32	32	32
8	70	70	70	13.6	13.4	13.5	32	32	32	80	80	80	--	--	--	33	32	32
9	80	70	76	13.6	13.3	13.5	32	32	32	85	80	82	14.6	14.0	--	34	32	33
10	80	70	74	13.3	13.2	13.2	32	32	32	80	80	80	14.6	13.9	14.2	35	32	33
11	70	70	70	13.3	13.1	--	33	32	--	80	80	80	14.3	13.7	14.0	37	34	35
12	70	70	70	13.3	13.1	--	32	32	--	80	80	80	13.6	13.5	--	38	36	37
13	80	70	75	13.6	13.5	--	32	32	--	80	80	80	--	--	--	37	35	36
14	80	80	80	13.5	13.3	13.4	32	32	32	80	80	80	--	--	--	38	35	36
15	80	80	80	13.3	13.0	13.2	32	32	32	80	75	--	--	--	--	38	36	--
16	80	75	76	13.3	12.9	13.1	33	32	32	--	--	--	--	--	--	--	--	--
17	80	75	75	13.4	13.1	13.2	33	32	32	--	--	--	--	--	--	--	--	--
18	75	70	74	13.5	13.4	13.4	33	32	32	--	--	--	--	--	--	--	--	--
19	75	70	75	13.6	13.3	13.4	33	32	32	--	--	--	--	--	--	--	--	--
20	80	75	78	13.4	13.1	13.3	32	32	32	--	--	--	--	--	--	--	--	--
21	80	80	80	13.3	13.0	13.1	33	32	32	60	60	--	--	--	--	34	33	--
22	80	80	80	13.4	13.1	13.2	33	32	32	60	55	56	--	--	--	34	33	33
23	80	80	80	13.3	13.0	13.2	33	32	32	55	55	55	--	--	--	36	33	35
24	80	80	80	13.4	13.2	13.3	32	32	32	55	55	55	--	--	--	38	35	37
25	80	80	80	13.5	13.4	13.5	32	32	32	55	55	55	--	--	--	40	36	38
26	85	80	84	13.7	13.4	13.6	32	32	32	60	55	57	--	--	--	42	39	41
27	90	85	86	13.8	13.2	13.6	32	32	32	60	60	60	--	--	--	42	40	41
28	85	80	84	13.5	13.2	13.3	32	32	32	60	55	56	--	--	--	41	41	41
29										55	50	--	12.6	12.6	--	41	39	--
30										50	45	49	12.6	12.5	12.5	40	38	39
31										45	45	45	12.6	12.4	12.4	42	40	41
	APRIL									MAY								
1	45	45	45	12.4	11.9	12.1	44	42	43	65	63	64	10.5	9.3	9.9	57	54	56
2	50	45	48	12.0	11.5	11.7	46	44	45	68	64	66	9.2	8.7	8.9	57	55	56
3	45	45	45	12.5	12.1	12.3	48	46	47	68	66	68	9.3	8.7	9.0	56	54	55
4	45	45	45	12.6	12.2	12.4	46	45	45	68	64	67	9.8	9.2	9.5	54	52	53
5	50	45	47	11.6	11.5	11.6	46	44	45	68	65	67	9.6	9.2	9.4	54	52	53
6	50	45	49	11.5	11.1	11.3	46	46	46	68	66	67	9.4	9.0	9.2	53	51	52
7	55	50	52	11.3	11.1	11.2	46	44	45	66	62	64	9.5	9.2	9.3	51	47	49
8	55	55	55	11.6	11.3	11.5	46	44	45	63	62	63	10.0	9.4	9.8	47	46	47
9	55	55	55	11.6	11.3	11.5	47	45	46	67	63	65	9.9	9.7	9.8	48	47	47
10	60	55	56	11.3	10.8	11.0	50	47	48	67	65	65	10.3	9.8	10.0	48	47	47
11	60	55	58	11.0	10.7	10.8	49	47	48	66	65	65	10.1	9.9	10.0	47	46	47
12	60	60	60	11.4	11.0	11.2	46	45	46	65	63	64	10.2	9.9	10.0	48	46	47
13	65	60	61	11.6	11.4	11.5	45	44	45	65	63	64	10.2	9.9	10.0	50	46	48
14	65	60	63	11.4	11.1	11.3	47	45	46	65	63	64	9.9	9.7	9.8	50	49	50
15	65	65	65	11.1	10.7	11.0	50	47	48	66	64	66	9.7	9.5	9.6	50	50	50
16	65	65	65	10.6	10.2	10.4	55	50	53	67	65	66	9.9	9.4	9.7	52	49	51
17	65	65	65	10.2	9.8	9.9	54	52	53	67	66	66	9.9	9.5	9.7	52	50	51
18	65	65	65	10.2	9.8	10.0	52	49	51	67	64	65	9.8	9.5	9.7	54	50	52
19	65	60	63	10.7	10.2	10.4	49	48	49	68	67	68	9.5	8.9	9.3	58	54	56
20	65	60	63	10.9	10.7	10.8	50	47	48	69	67	68	9.2	8.7	9.0	60	58	59
21	65	65	65	10.8	10.5	10.7	51	49	50	69	68	68	9.5	8.7	9.1	58	56	57
22	65	65	65	10.5	10.0	10.3	53	51	52	68	67	67	9.8	9.1	9.4	57	55	56
23	65	65	65	10.3	9.9	10.1	53	51	52	69	67	68	9.9	9.2	9.6	57	55	56
24	65	65	65	10.6	10.1	10.3	51	47	49	69	68	69	9.9	9.3	9.6	57	55	57
25	65	65	65	11.2	10.7	11.0	49	46	48	70	68	68	9.6	9.1	9.4	56	53	55
26	65	65	65	11.2	10.9	11.1	49	47	48	69	67	68	10.1	9.1	9.7	54	52	53
27	65	65	65	9.9	9.7	9.8	49	48	49	69	67	68	10.3	9.4	9.9	58	53	55
28	65	60	64	11.1	10.7	10.9	51	48	50	69	68	69	10.0	9.1	9.6	62	57	60
29	65	65	65	10.9	10.7	10.8	53	50	52	69	68	69	9.0	8.2	8.5	62	59	60
30	65	65	65	10.8	10.4	10.7	56	52	54	70	68	69	9.4	8.1	8.9	60	57	59
31										70	69	70	9.9	8.8	9.3	62	58	60

1-4400.9. DELAWARE RIVER NEAR EAST STROUDSBURG, PA.--Continued

Specific conductance (micromhos at 25°C), dissolved oxygen, in parts per million, and temperature (°F) of water, water year October 1966 to September 1967--Continued

Day	JUNE									JULY								
	Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)			Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	70	70	70	9.6	8.7	9.1	64	60	62	73	71	72	8.9	7.8	8.3	71	68	70
2	70	70	70	9.2	8.2	8.7	66	63	65	73	73	73	8.9	8.0	8.5	74	71	72
3	77	74	75	9.0	7.9	8.4	68	65	67	75	73	74	8.6	7.1	8.0	76	73	74
4	78	76	77	8.7	7.7	8.2	71	68	69	75	72	73	8.5	7.6	8.0	76	74	75
5	78	78	78	8.7	7.5	8.1	72	69	71	75	73	74	8.7	7.6	8.1	75	73	74
6	80	78	78	8.4	7.5	7.9	73	70	72	77	76	77	9.5	8.0	8.7	75	72	73
7	79	78	78	8.1	7.2	7.7	73	71	72	77	76	76	9.2	8.3	8.7	73	72	73
8	79	79	--	8.0	7.0	--	72	72	--	77	76	76	9.2	8.1	8.6	74	73	74
9	--	--	--	--	--	--	--	--	--	79	77	78	9.0	7.8	8.3	76	74	75
10	--	--	--	--	--	--	--	--	--	80	77	78	8.9	7.5	8.0	79	75	77
11	--	--	--	--	--	--	--	--	--	79	74	76	8.1	7.3	7.6	77	76	77
12	87	85	--	8.7	6.8	--	80	78	--	75	73	74	8.0	7.2	7.6	79	77	78
13	87	83	85	8.0	6.3	7.1	80	77	79	74	72	73	7.8	7.0	7.4	78	76	77
14	83	81	82	7.5	6.2	6.7	78	73	75	74	72	73	8.0	7.2	7.6	77	76	77
15	86	82	84	8.7	6.3	7.3	76	72	74	74	73	74	7.6	7.1	7.3	76	74	75
16	87	81	84	8.1	6.5	7.1	76	72	74	74	73	74	8.6	7.3	8.0	74	72	73
17	86	85	86	7.9	6.1	7.0	77	73	75	75	74	75	9.2	7.8	8.5	75	73	74
18	81	80	80	7.4	6.4	6.8	77	75	76	76	75	76	8.8	7.9	8.3	75	74	75
19	81	76	80	6.6	6.1	6.3	75	70	72	76	76	76	8.6	7.7	8.1	76	74	75
20	76	73	74	7.2	6.3	6.8	69	68	68	79	76	78	8.9	7.4	8.0	78	75	76
21	75	73	74	7.4	6.9	7.1	71	67	69	80	77	79	8.5	7.3	7.7	78	76	77
22	75	73	75	--	--	--	73	71	72	80	78	79	8.5	7.2	7.7	77	75	76
23	75	74	75	--	--	--	74	72	73	80	79	80	8.6	7.2	7.8	77	75	76
24	74	67	70	--	--	--	75	73	74	79	77	78	8.1	7.1	7.5	79	77	78
25	66	65	66	--	--	--	75	74	75	81	78	79	8.0	7.0	7.4	79	77	78
26	66	65	65	7.6	7.5	--	74	73	74	82	80	81	8.2	6.9	7.5	78	77	78
27	65	64	64	8.2	7.5	7.8	74	72	73	80	78	79	8.2	6.8	7.4	79	77	78
28	67	65	66	8.5	7.7	8.1	74	72	73	80	78	79	7.1	6.3	6.7	78	77	78
29	70	67	69	8.4	7.8	8.1	72	71	72	82	77	80	7.8	6.1	6.9	77	76	76
30	72	70	70	8.1	7.8	7.9	71	69	70	78	77	78	8.0	6.6	7.3	77	76	77
31										79	77	78	8.0	6.8	7.3	78	76	77
	AUGUST									SEPTEMBER								
1	79	77	78	7.7	6.6	7.2	79	77	78	72	71	71	8.2	6.7	7.5	70	67	68
2	80	79	79	8.3	6.6	7.4	79	77	78	74	71	73	8.8	7.6	8.1	68	67	67
3	80	69	76	7.0	6.6	6.8	78	74	76	73	71	72	9.1	7.9	8.3	67	65	66
4	72	69	71	7.1	6.7	6.9	75	73	74	75	73	75	9.1	7.7	8.3	68	65	67
5	72	70	71	7.4	6.8	7.1	75	73	74	79	75	76	9.2	7.5	8.1	71	67	69
6	76	71	74	7.5	7.0	7.3	76	74	75	80	79	79	8.8	7.2	7.7	71	68	70
7	76	75	76	7.9	6.9	7.3	76	74	75	80	78	79	8.9	7.1	7.7	73	70	71
8	76	75	75	7.4	6.6	7.0	76	75	76	80	77	79	8.6	7.2	7.7	73	71	72
9	75	71	73	7.3	6.7	7.0	75	73	74	78	76	77	8.0	7.0	7.4	72	71	71
10	71	69	70	7.2	6.6	6.9	74	72	73	78	76	78	8.8	6.9	7.6	71	68	70
11	72	69	71	7.7	7.0	7.3	74	73	74	81	78	79	9.6	7.5	8.4	69	66	67
12	72	70	71	7.5	7.1	7.3	73	72	72	81	80	81	9.9	8.0	8.7	68	65	66
13	72	71	71	8.0	7.3	7.7	72	70	71	82	80	81	9.9	8.3	8.9	67	65	66
14	74	72	73	8.4	7.6	7.9	72	70	71	84	82	83	9.9	8.2	8.9	68	65	66
15	74	74	74	8.5	7.5	7.9	74	71	72	84	82	83	9.5	7.9	8.6	69	66	67
16	75	74	75	8.3	7.2	7.7	75	73	74	82	79	81	8.4	7.3	7.8	69	68	69
17	77	75	76	8.1	6.9	7.4	76	74	75	80	78	79	8.6	7.0	7.6	71	68	70
18	78	76	77	7.7	6.7	7.0	77	75	76	80	78	79	8.2	6.9	7.4	72	70	71
19	77	76	76	7.4	6.5	6.9	77	76	77	80	79	80	7.7	6.7	7.1	73	71	72
20	76	75	75	7.0	6.3	6.6	77	75	76	80	80	80	7.8	6.5	7.0	72	71	72
21	78	75	76	7.7	6.4	7.0	75	73	74	80	78	79	6.9	6.3	6.6	72	69	71
22	78	78	78	7.9	6.6	7.2	75	73	74	80	78	79	7.5	6.0	6.8	69	66	68
23	79	78	79	7.9	6.9	7.4	74	72	73	80	79	80	8.4	7.1	7.6	66	62	64
24	81	79	80	8.6	7.1	7.7	72	70	71	80	79	80	8.8	7.6	8.3	62	59	60
25	80	74	78	7.9	7.3	7.6	69	65	67	81	79	80	10.3	8.4	9.4	59	57	58
26	73	70	70	7.8	7.6	7.7	65	65	65	82	81	81	10.3	9.4	--	59	57	58
27	71	70	71	7.8	7.3	7.5	67	65	66	84	82	83	--	--	--	61	58	59
28	73	70	71	7.9	7.1	7.4	70	67	68	85	83	84	--	--	--	63	60	62
29	75	72	73	7.3	6.8	7.1	70	69	70	83	80	82	--	--	--	65	63	64
30	75	72	74	7.6	6.8	7.1	72	69	71	80	77	79	--	--	--	65	64	64
31	72	71	71	6.8	6.5	6.6	72	70	71									

1-4427.5. DELAWARE RIVER AT DUNNFIELD, N. J. (DELAWARE WATER GAP, PA.)

LOCATION.--Lat 41°58'40", long 75°08'10", sediment samples collected on Interstate Highway 80 bridge, at Dunnfield, Warren County, 4.0 miles downstream from gaging station.
DRAINAGE AREA.--4,150 square miles, approximately.
RECORDS AVAILABLE.--Water temperatures: October 1966 to September 1967.
Sediment records: July 1964 to September 1967.
EXTREMES, 1966-67.--Sediment concentrations: Maximum daily, 105 ppm Mar. 30; minimum daily, 1 ppm on many days.
Sediment loads: Maximum daily, 7,740 tons Mar. 30; minimum daily, 4 tons on several days in October and November.
EXTREMES, 1964-67.--Sediment concentrations: Maximum daily, 280 ppm Feb. 10, 1965; minimum daily, 0 ppm on many days during July and August 1964.
Sediment loads: Maximum daily, 15,000 tons Feb. 10, 1965; minimum daily, 0.00 tons on many days during July and August 1964.
REMARKS.--Records of specific conductance and pH of selected sediment samples available in Water Resources Division office at Trenton, N. J. Records of discharge are given for Delaware River below Tocks Island damsite, near Delaware Water Gap, Pa. Health Department station No. WPC-D20 at same site.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Lithium (Li)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Phosphate (PO_4)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color	Temperature (°F)
June 12, 1967	1840	1.1				9.5	1.5	2.5	1.0		20	0	13	4.6	0.0	1.1		54	30	13		78	6.7	2	79
July 19.....	2250	4.4				7.0	1.5	3.0	1.0		16	0	13	4.0	.0	1.5		44	24	11		70	6.3	8	75

Temperature (°F) of water, water year October 1966 to September 1967

Month	Day 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Average
October	--	--	54	--	--	--	56	--	--	--	54	--	--	56	--	--	57	--	--	50	--	--	--	51	--	--	54	--	--	--	--	--
November	--	--	54	--	--	--	44	--	--	50	--	51	--	--	--	--	46	--	--	--	--	--	--	35	--	--	--	--	45	44	--	--
December	--	39	--	--	41	--	--	41	--	--	46	--	--	--	--	--	--	--	--	--	--	40	--	--	--	--	52	--	--	--	--	--
January.....	--	--	--	--	--	--	--	--	36	--	--	--	--	--	--	36	--	--	--	--	34	--	--	35	--	36	36	34	34	34	--	--
February.....	34	--	--	35	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
March.....	--	--	--	--	35	36	--	34	--	--	34	--	--	37	34	34	33	34	--	34	--	38	--	36	--	39	--	39	--	36	41	--
April.....	42	42	--	44	43	46	45	44	--	--	44	--	--	45	--	48	--	--	46	--	47	--	--	45	47	--	--	--	--	--	--	--
May.....	--	47	--	49	--	55	47	46	47	46	--	47	46	--	49	50	--	54	--	57	--	57	--	54	--	--	54	--	--	--	56	--
June	--	60	--	--	61	--	--	--	--	--	70	--	--	68	--	67	--	--	67	--	70	--	69	--	--	--	--	71	--	70	--	--
July.....	70	--	--	70	--	--	70	--	--	71	--	71	--	--	71	--	--	71	--	70	--	72	--	--	71	--	70	--	--	72	--	--
August.....	--	75	74	71	--	74	--	--	72	--	70	--	--	72	--	74	--	--	71	--	--	69	--	--	70	--	--	66	--	--	67	--
September	--	--	64	--	66	--	64	--	66	--	67	--	--	67	67	--	--	68	--	--	67	--	64	--	59	--	65	--	64	--	--	--

1-4427.5. DELAWARE RIVER AT DUNNFIELD, N. J. (DELAWARE WATER GAP, PA.)--Continued

Suspended sediment, water year October 1966 to September 1967
(Where no daily concentrations are reported, loads are estimated)

Day	OCTOBER			NOVEMBER			DECEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	1920	1	5	1800	1	5	6200	20	335
2..	2950	2	16	1520	1	4	5090	8	110
3..	2700	2	15	2110	30	A 171	4580	8	99
4..	2160	1	6	2680	33	B 239	3440	8	74
5..	1840	1	5	3440	32	297	2480	8	54
6..	1840	1	5	2980	22	177	3260	6	53
7..	1640	1	4	2350	8	51	3380	4	37
8..	1350	1	4	2650	3	21	3470	2	19
9..	1450	1	4	2130	2	12	3590	3	29
10..	1570	1	4	1920	2	10	3980	5	54
11..	1860	2	10	2600	3	21	3770	4	41
12..	1640	1	4	2850	5	38	4520	9	110
13..	1740	1	5	3620	18	B 176	5720	25	386
14..	2000	2	11	3120	11	A 93	5540	18	269
15..	1880	1	5	2950	12	96	5150	15	209
16..	1570	1	4	2880	10	78	4820	8	104
17..	1350	1	4	2450	9	60	4430	5	60
18..	1640	2	9	2200	4	24	3650	4	39
19..	2550	11	76	2380	2	13	3100	3	25
20..	2900	13	A 102	2300	1	6	4190	3	34
21..	2350	7	44	1840	1	5	3950	3	32
22..	2130	2	12	1860	1	5	3500	3	28
23..	1860	1	5	1860	1	5	3100	2	17
24..	1780	1	5	2280	4	25	2600	2	14
25..	1730	1	5	1900	2	10	2100	1	6
26..	1730	1	5	1650	1	4	2000	1	5
27..	1650	1	4	1640	1	4	2400	2	13
28..	1820	2	10	1730	2	9	2800	4	30
29..	1980	3	16	3710	18	180	4300	4	46
30..	1820	2	10	6290	28	476	4800	5	65
31..	1640	1	4	--	--		4580	5	62
Total	59040	--	418	75690	--	2315	120490	--	2459

Day	JANUARY			FEBRUARY			MARCH		
1..	3890	6	63	7200	19	369	3410	7	64
2..	3350	6	54	6850	15	277	3470	7	66
3..	3290	6	53	6640	11	197	3470	7	66
4..	3530	6	57	7160	9	174	2220	7	42
5..	4160	6	67	6110	8	132	2500	7	47
6..	4070	6	66	5810	8	125	2680	9	65
7..	3500	6	57	5600	8	121	4070	10	110
8..	3200	6	52	4340	8	94	4130	13	145
9..	3290	5	44	5390	7	102	4520	7	85
10..	4040	6	65	5570	7	105	4130	5	56
11..	4070	6	66	5480	7	104	4460	4	48
12..	4070	6	66	5120	7	97	6880	7	130
13..	4010	6	65	4160	7	79	9960	36	A 968
14..	3410	5	46	4310	7	81	10400	26	730
15..	2850	5	38	3440	7	65	11000	26	S 818
16..	2620	4	28	3710	7	70	13600	36	S 1310
17..	3470	4	37	5030	--	160	11400	12	369
18..	3050	3	25	5030	--	140	9960	9	242
19..	3290	3	27	3950	--	100	8120	8	175
20..	3260	3	26	3410	8	74	7020	6	114
21..	2920	3	24	3500	8	76	7160	6	116
22..	2180	3	18	3180	7	60	6780	5	92
23..	2050	3	17	3050	7	58	6020	4	65
24..	2650	47	S 373	3770	7	71	5810	4	63
25..	4850	64	A 838	3560	7	67	5660	4	61
26..	11200	90	2720	3500	7	66	5780	20	312
27..	13000	100	3510	2750	7	52	6710	12	217
28..	16300	52	2290	3230	7	61	9120	8	197
29..	16200	30	1310	--	--		14200	15	S 654
30..	11600	21	658	--	--		27000	105	S 7740
31..	9160	19	470	--	--		25500	82	5650
Total	162530	--	13230	130850	--	3177	247140	--	20817

S Computed by subdividing day.
A Computed from partly estimated-concentration graph.
B Computed from estimated-concentration graph.

1-4427.5. DELAWARE RIVER AT DUNNFIELD, N. J. (DELAWARE WATER GAP, PA.)--Continued

Suspended sediment, water year October 1966 to September 1967--Continued
(Where no daily concentrations are reported, loads are estimated)

Day	APRIL			MAY			JUNE		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	24400	66	4350	5200	4	56	3300	1	9
2..	24300	52	3410	5220	4	56	3100	3	25
3..	27600	--	5000	5470	4	59	2800	3	23
4..	22800	--	3500	6970	4	75	2400	3	19
5..	18500	--	2500	7050	5	95	2400	5	32
6..	14900	60	2410	6550	5	88	2700	5	36
7..	16200	50	2190	6690	7	126	2700	5	36
8..	16500	39	1740	9660	7	183	2500	5	34
9..	13800	28	1040	10800	8	233	2000	4	22
10..	12000	20	648	9730	6	158	1930	5	26
11..	11200	13	393	9280	5	125	2230	5	30
12..	9900	6	160	14300	16	618	1840	5	25
13..	8700	4	94	15600	12	505	2620	14	99
14..	7540	3	61	12800	12	415	2290	9	56
15..	6810	3	55	11300	11	336	1620	6	26
16..	6290	4	68	14100	14	533	2450	10	66
17..	7900	10	B 213	16000	16	691	3580	16	155
18..	9160	15	A 371	14000	8	302	2820	11	84
19..	10200	14	386	12500	7	236	3620	10	98
20..	9160	11	272	11000	6	178	4900	13	172
21..	7800	5	105	9500	5	128	5040	8	109
22..	6940	4	75	8800	4	95	4180	6	68
23..	6180	4	67	8000	4	86	4020	12	130
24..	6080	4	66	7000	4	76	7680	20	415
25..	6750	3	55	6500	4	70	6390	17	293
26..	6510	3	53	5700	4	62	5350	12	173
27..	6240	3	51	5300	4	57	5280	10	143
28..	6810	5	92	4600	4	50	4710	8	102
29..	6690	4	72	4200	4	45	3760	8	81
30..	6020	4	65	4000	3	32	3240	8	70
31..	--	--		3600	1	10	--	--	
Total	343880	--	29562	271420	--	5779	103450	--	2657

Day	JULY			AUGUST			SEPTEMBER		
1..	3060	9	74	2710	4	29	3290	3	27
2..	2630	7	50	2150	4	23	3650	3	30
3..	2640	7	50	3300	26	A 232	3360	3	27
4..	3190	8	69	5390	52	A 757	2360	3	19
5..	2540	6	41	5880	10	159	1820	2	10
6..	2140	4	23	5440	9	132	2080	2	11
7..	2580	5	35	4990	8	108	2380	2	13
8..	2470	5	33	4200	7	79	2790	4	30
9..	2030	4	22	3850	7	73	2930	5	40
10..	1940	4	21	6300	14	238	2200	2	12
11..	2800	7	53	5400	8	117	1860	2	10
12..	3300	9	80	4070	7	77	2120	2	11
13..	5210	18	253	3060	6	50	2050	2	11
14..	3920	14	148	2750	6	45	2090	2	11
15..	3670	11	109	2680	6	43	2200	2	12
16..	2670	8	58	2400	4	26	2620	3	21
17..	2090	5	28	2140	2	12	2490	3	20
18..	2560	5	35	2650	2	14	2340	2	13
19..	2250	4	24	3220	3	26	3030	4	33
20..	2050	3	17	3470	4	37	3180	4	34
21..	1850	3	15	2610	3	21	2580	3	21
22..	1710	3	14	2840	3	23	2550	3	21
23..	2230	4	24	2820	3	23	2240	2	12
24..	3020	8	65	2060	2	11	2300	2	12
25..	3210	8	69	2440	3	20	2180	2	12
26..	2680	6	43	4940	7	93	2110	2	11
27..	2270	4	25	4350	5	59	1970	3	16
28..	2310	4	25	4810	12	156	2510	3	20
29..	2420	4	26	6810	9	165	3280	4	35
30..	2330	4	25	6000	6	97	3840	5	52
31..	2430	4	26	4600	4	50	--	--	
Total	82200	--	1580	120330	--	2995	76400	--	607

Total discharge for year (cfs-days).....1793420.0
Total load for year (tons).....85596

A Computed from partly estimated-concentration graph.
B Computed from estimated-concentration graph.

1-4530. LEHIGH RIVER AT BETHLEHEM, PA.

LOCATION.--Lat 40°36'55", long 75°22'45", at gaging station on left bank 120 feet upstream from New Street Bridge at Bethlehem, Northampton County, and 1,800 feet upstream from Monocacy Creek.
DRAINAGE AREA.--1,279 square miles, includes that of Monocacy Creek.
RECORDS AVAILABLE.--Chemical analyses: October 1958 to August 1967.

Chemical analyses, in parts per million, October 1966 to August 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 2, 1966...	1600	--		--	--	--	--	A16	--	37	61	12	--	6.3	--	82	52		227	6.5	2
Oct. 20.....	1110	6.9		0.00	0.00	28	8.5	13	2.7	59	55	12	1.6	8.0	177	105	57		272	6.8	4
Dec. 15.....	1360	5.5		.00	.00	16	4.8	11	1.5	28	36	12	.8	5.8	120	60	37		182	6.5	1
Jan.27, 1967..	4400	5.6		.00	.00	14	4.5	5.5	1.3	28	26	8.6	.5	6.7	93	54	31		140	7.3	3
Mar. 1.....	1100	--		--	--	--	--	A8.5	--	26	38	10	--	5.3	--	61	40		174	7.1	5
Mar. 10.....	4170	8.4		.00	.00	17	5.2	8.1	1.6	28	33	12	.2	8.7	121	64	41		185	6.5	3
Apr. 12.....	2480	6.2		.01	.00	16	6.3	7.5	1.3	30	37	9.5	.2	9.5	111	66	42		173	6.9	4
May 24.....	2610	6.2		.00	.00	15	5.2	7.4	1.2	30	33	7.0	.4	4.2	114	59	35		154	6.8	5
June 30.....	875	--		--	--	--	--	A11	--	56	43	12	--	5.3	--	88	42		227	7.0	12
July 6.....	1000	11		.10	.00	19	7.3	8.3	1.7	44	39	10	.3	6.0	120	78	42		198	6.6	2
July 31.....	920	--		--	--	--	--	A12	--	60	53	10	--	7.6	--	98	49		201	7.0	3
Aug. 31.....	1330	4.0		.00	.01	19	6.7	9.2	2.0	48	39	10	.1	5.0	127	75	36		210	6.9	2

A Calculated Na plus K, reported as Na.

1-4547.2. LEHIGH RIVER AT EASTON, PA.

LOCATION.--Lat 40°41'12", long 75°12'32", at Third Street Bridge, Easton, Northampton County, U.S. Highway 611.
DRAINAGE AREA.--1,364 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1961 to September 1967.
Water temperatures: October 1961 to September 1967.
EXTREMES, 1966-67.--Specific conductance: Maximum daily, 390 micromhos Oct. 1; minimum daily, 100 micromhos Mar. 31.
Water temperatures: maximum, 81°F July 27 and Aug. 2; minimum, freezing point on Dec. 24.
EXTREMES, 1961-67.--Specific conductance: maximum daily 581 micromhos Aug. 19, 1963; minimum daily, 82 micromhos Mar. 15, 1964.
Water temperatures: maximum, 86°F Aug. 3, 1962; minimum, freezing point on many days during winter months.
REMARKS.--Records of discharge are given for Lehigh River at Glendon, Pa.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 1-7, 9, 10, 1966.....	1200	7.3		0.01	0.00	24	8.5	12	4.1	51	50	14	1.4	11	163	95	53		263	7.0	2
Mar. 1, 1967...	1200	6.2		.00	.00	20	7.5	12	2.8	38	48	15	.5	9.7	146	81	50		239	7.3	5
June 8.....	1230	4.1		.00	.00	22	9.3	8.0	3.2	55	43	11	.4	7.7	152	94	49		238	6.8	3
Aug. 9.....	2470	5.8		.04	.00	20	6.5	6.7	2.4	41	38	9.0	.3	5.7	134	77	43		193	6.8	6

1-4547.2. LEHIGH RIVER AT EASTON, PA.--Continued

Specific conductance (micromhos at 25°C), dissolved oxygen, in parts per million, and temperature (°F) of water, water year October 1966 to September 1967

Day	OCTOBER									NOVEMBER								
	Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)			Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	390	369	377	4.5	3.2	3.9	68	63	65	351	337	--	6.9	5.0	5.9	60	55	57
2	362	292	314	6.9	4.2	5.8	63	60	61	362	342	355	5.4	4.2	4.8	62	59	60
3	298	269	282	7.4	6.8	7.0	62	60	61	370	337	357	5.0	4.0	4.5	63	58	62
4	267	251	258	7.2	6.3	6.8	63	60	62	355	303	332	7.1	4.5	5.7	58	53	55
5	253	248	250	6.8	6.0	6.4	64	63	64	301	259	282	8.1	7.0	7.5	53	51	52
6	261	247	253	7.2	6.2	6.6	64	61	62	259	220	242	8.5	7.5	7.9	53	50	52
7	264	253	260	7.3	6.4	6.8	64	61	62	221	212	215	9.1	8.1	8.5	52	50	51
8	269	266	--	6.9	5.9	6.5	65	60	63	233	222	229	8.6	7.9	8.2	53	51	52
9	--	--	--	6.4	5.6	6.0	67	63	65	251	235	245	7.7	6.9	7.3	56	53	55
10	--	--	--	5.6	3.9	4.5	67	65	66	251	244	248	7.1	6.2	6.6	59	56	57
11	--	--	--	6.2	4.0	5.2	65	63	64	252	240	246	6.3	5.8	6.1	59	59	59
12	354	339	--	5.8	4.2	5.0	64	63	64	249	238	242	6.9	6.0	6.4	59	57	58
13	361	326	343	6.2	4.7	5.3	65	61	63	248	230	241	7.5	6.4	7.0	57	54	56
14	350	332	343	5.3	3.7	4.6	67	63	65	231	216	224	8.2	7.3	7.7	54	52	53
15	362	350	355	5.2	3.3	4.2	68	64	66	249	222	239	8.2	7.6	7.8	52	50	51
16	--	--	--	5.1	3.1	4.0	69	66	67	241	234	237	8.8	8.0	8.2	50	50	50
17	--	--	--	4.4	3.4	3.9	66	64	65	244	232	240	8.5	7.9	8.2	52	50	51
18	--	--	--	5.6	3.7	4.5	63	61	62	248	240	242	8.0	7.5	7.7	53	51	52
19	354	338	--	4.9	4.3	4.6	62	60	61	259	248	250	8.0	7.1	7.4	53	51	53
20	341	319	325	5.9	4.8	5.3	61	59	60	272	257	266	8.6	7.5	7.9	51	49	50
21	328	308	321	6.9	5.8	6.2	60	57	58	268	254	262	8.9	8.1	8.4	50	47	49
22	313	308	310	6.8	5.6	6.1	60	57	58	286	262	273	8.8	8.1	8.4	50	47	48
23	312	300	309	6.1	5.3	5.7	60	58	59	299	285	291	8.9	8.1	8.5	49	46	47
24	302	300	--	6.5	5.4	5.8	62	58	60	303	289	297	8.7	8.0	8.3	50	47	48
25	--	--	--	5.9	4.9	5.4	62	59	61	298	272	283	8.4	7.5	7.9	52	50	51
26	--	--	--	6.1	4.7	5.3	62	58	60	289	273	280	8.0	7.1	7.5	55	52	53
27	--	--	--	6.1	4.5	5.2	62	58	61	294	269	285	7.9	6.9	7.3	53	52	52
28	--	--	--	6.3	4.4	5.2	62	59	61	271	247	263	7.7	7.0	7.4	54	52	53
29	--	--	--	6.3	4.5	5.3	62	58	60	269	189	223	9.2	7.0	8.1	54	48	51
30	--	--	--	6.8	4.6	5.6	59	56	58	186	142	165	10.3	9.3	9.8	48	45	47
31	--	--	--	7.1	5.1	6.0	57	54	55									
	DECEMBER									JANUARY								
1	165	135	145	10.5	10.3	10.4	46	44	45	214	204	208	12.2	11.9	12.0	37	35	36
2	190	168	175	10.3	10.2	10.2	45	43	45	214	192	204	12.0	11.7	11.9	39	37	37
3	204	194	200	11.2	10.3	10.7	43	39	41	201	190	195	11.9	11.7	11.8	38	36	37
4	212	199	207	11.6	11.3	11.5	39	38	38	209	200	205	11.7	11.4	11.5	39	38	39
5	220	202	209	11.8	11.5	11.7	40	38	38	236	213	227	11.5	11.2	11.4	40	38	39
6	227	212	220	11.5	11.1	11.3	42	40	41	232	223	228	11.4	11.2	11.3	39	37	38
7	238	222	229	11.2	10.6	10.9	43	42	43	239	228	234	11.5	11.2	11.4	39	37	38
8	235	222	231	10.6	9.9	10.3	45	43	44	241	224	233	12.6	11.4	12.0	40	39	40
9	233	228	230	9.9	9.3	9.5	48	45	47	224	212	217	12.7	12.3	12.5	39	37	38
10	231	223	227	9.2	8.7	9.0	52	48	50	230	217	223	12.7	12.2	12.5	40	38	39
11	221	209	215	9.0	8.6	8.8	52	50	52	213	191	201	13.0	12.5	12.7	38	37	38
12	206	187	197	10.8	9.1	9.8	50	47	48	211	197	204	12.9	12.7	12.8	38	37	38
13	200	178	189	11.4	10.1	10.7	47	41	44	218	202	210	12.8	12.6	12.7	39	37	38
14	200	179	188	11.7	11.4	11.5	41	40	41	219	201	209	12.6	12.3	12.4	39	38	39
15	222	201	217	11.6	11.2	11.4	42	40	41	213	199	205	12.4	12.0	12.1	41	39	40
16	225	218	221	11.5	11.3	11.4	42	40	41	210	203	206	12.1	11.8	12.0	41	40	41
17	231	210	220	11.4	11.1	11.3	42	40	41	223	211	219	12.2	11.7	11.9	41	40	41
18	227	208	218	11.1	10.9	11.0	43	41	42	235	221	227	11.8	11.5	11.7	41	37	39
19	221	210	215	11.2	10.9	11.1	42	41	41	243	218	233	11.9	11.4	11.6	37	36	37
20	229	216	222	11.5	11.0	11.2	41	37	39	263	248	253	11.5	11.3	11.3	38	37	37
21	222	215	219	11.8	11.5	11.6	39	37	38	264	245	255	11.4	11.1	11.3	40	37	39
22	253	221	240	11.8	11.5	11.7	39	38	38	244	230	237	11.2	11.0	11.1	41	39	40
23	247	228	235	11.7	11.6	11.6	39	37	38	229	215	221	11.1	10.8	10.9	42	40	41
24	245	206	228	11.7	11.5	11.6	38	32	36	231	205	219	10.8	10.5	10.7	44	41	43
25	233	210	220	11.9	11.6	11.8	34	33	33	209	185	198	10.9	10.3	10.7	45	44	44
26	241	229	235	12.2	11.8	12.1	35	33	34	182	143	158	10.9	10.6	10.7	46	44	45
27	231	218	222	12.2	11.9	12.1	37	35	36	153	128	138	10.9	10.7	10.8	45	43	44
28	229	218	223	11.8	11.7	11.8	37	35	36	155	145	149	11.1	10.7	10.9	42	40	41
29	287	230	249	11.8	11.4	11.6	39	36	38	150	132	141	11.4	11.1	11.3	40	37	38
30	288	210	238	12.3	11.4	11.9	38	36	36	149	132	136	11.4	11.2	11.3	37	36	37
31	229	208	217	12.2	12.0	12.1	37	35	36	157	147	152	11.3	11.2	11.2	37	35	36

1-4547.2. LEHIGH RIVER AT EASTON, PA.--Continued

Specific conductance (micromhos at 25°C), dissolved oxygen, in parts per million, and temperature (°F) of water, water year October 1966 to September 1967--Continued

Day	FEBRUARY									MARCH								
	Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)			Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	163	156	159	11.6	11.4	11.5	39	37	38	255	240	245	11.1	10.8	--	40	37	38
2	178	158	164	11.4	11.0	11.2	41	39	40	250	235	242	--	--	--	40	37	39
3	182	162	172	11.3	11.0	11.2	41	39	40	260	230	246	--	--	--	44	40	42
4	181	163	172	11.5	11.2	11.4	39	38	39	245	220	234	--	--	--	43	42	42
5	175	165	170	11.5	11.4	11.4	40	38	39	245	210	220	--	--	--	41	39	40
6	220	170	176	11.4	11.2	11.3	40	39	40	235	200	211	--	--	--	40	36	39
7	230	180	203	11.4	11.1	11.2	39	34	35	195	180	187	--	--	--	36	35	35
8	210	190	206	11.5	11.1	11.3	36	34	35	200	190	195	--	--	--	38	35	37
9	230	210	218	11.6	11.2	11.4	37	34	36	195	185	190	--	--	--	42	38	40
10	220	190	206	11.5	11.3	11.4	39	37	38	190	180	188	--	--	--	44	41	43
11	225	190	208	11.5	11.3	11.4	39	37	38	190	165	176	--	--	--	45	43	44
12	215	180	197	11.5	11.2	11.4	38	36	37	170	135	152	--	--	--	44	43	44
13	205	185	194	11.4	11.1	11.3	36	34	35	135	120	127	--	--	--	43	41	43
14	230	200	218	11.4	11.1	11.2	39	36	38	130	125	127	--	--	--	44	41	42
15	225	205	215	11.5	11.2	11.4	41	39	40	135	130	132	--	--	--	45	42	44
16	210	190	200	11.5	11.1	11.3	41	40	41	130	125	--	--	--	--	42	41	--
17	210	190	199	11.4	11.2	11.3	39	37	38	--	--	--	--	--	--	--	--	--
18	215	195	201	11.4	11.1	11.2	38	36	37	--	--	--	--	--	--	--	--	--
19	220	190	209	11.4	11.1	11.3	38	37	38	--	--	--	--	--	--	--	--	--
20	200	190	197	11.3	11.2	11.2	39	38	38	--	--	--	--	--	--	--	--	--
21	215	200	205	11.3	11.1	11.2	40	38	39	--	--	--	--	--	--	--	--	--
22	220	200	209	11.3	11.0	11.2	40	38	39	135	130	--	--	--	--	42	41	--
23	225	200	213	11.2	11.0	11.1	41	39	40	--	--	--	--	--	--	--	--	--
24	225	210	219	11.0	10.8	10.9	39	38	38	--	--	--	--	--	--	--	--	--
25	235	215	225	11.0	10.7	10.8	37	35	36	--	--	--	--	--	--	--	--	--
26	260	225	235	11.2	10.6	10.9	38	34	36	--	--	--	--	--	--	--	--	--
27	235	230	231	11.2	11.0	11.1	38	37	37	165	160	--	--	--	--	49	47	--
28	260	240	250	11.2	11.0	11.1	41	38	40	160	145	154	--	--	--	48	47	47
29										145	135	139	--	--	--	48	46	47
30										130	105	113	--	--	--	48	46	47
31										115	100	108	--	--	--	49	46	47
	APRIL									MAY								
1	115	105	112	--	--	--	50	47	49	180	160	165	9.6	8.1	8.8	60	55	58
2	115	110	112	--	--	--	53	48	51	180	180	180	8.7	7.7	8.1	60	59	59
3	125	110	115	--	--	--	55	51	53	190	180	182	9.2	7.6	8.4	60	58	59
4	140	125	129	--	--	--	53	51	52	170	150	159	9.6	8.4	8.9	59	56	57
5	145	135	138	--	--	--	51	49	50	150	140	146	9.5	8.4	9.0	59	55	57
6	155	145	150	--	--	--	50	50	50	160	150	156	8.8	7.9	8.4	58	54	56
7	155	140	149	--	--	--	50	49	49	160	150	158	9.6	8.8	9.2	54	50	52
8	150	140	145	--	--	--	51	48	49	160	150	156	10.3	9.5	10.0	50	48	50
9	150	145	149	--	--	--	52	49	51	140	130	133	10.0	9.8	9.9	51	49	50
10	165	150	153	--	--	--	54	51	52	140	140	140	10.1	9.7	9.9	52	50	51
11	180	160	165	--	--	--	53	50	52	170	140	156	9.7	9.0	9.5	51	51	51
12	190	175	181	--	--	--	51	48	50	170	150	159	10.2	9.0	9.8	52	49	50
13	195	180	188	--	--	--	50	48	49	160	150	153	9.7	9.3	9.6	55	51	53
14	190	180	185	--	--	--	52	49	50	160	160	160	9.5	9.1	9.3	55	53	54
15	190	185	186	9.6	9.2	--	56	52	54	170	160	164	9.5	9.1	9.3	54	53	53
16	190	180	186	9.1	8.4	8.8	61	56	58	180	160	175	10.5	9.1	9.8	54	51	53
17	195	185	188	8.9	8.3	8.6	59	55	57	190	180	183	10.1	9.3	9.8	57	53	55
18	210	190	200	9.5	8.3	8.9	55	52	54	200	190	194	9.8	8.5	9.2	60	55	58
19	205	180	192	10.3	9.3	9.7	52	50	51	200	200	200	9.3	8.0	8.6	62	59	61
20	195	175	182	10.1	9.7	9.9	54	50	52	200	180	188	9.3	7.6	8.4	63	61	62
21	195	185	186	9.7	9.1	9.3	56	52	54	180	180	180	9.4	8.0	8.7	61	58	60
22	195	190	194	9.0	8.4	8.6	59	55	56	190	180	182	10.2	8.8	9.4	59	56	58
23	190	180	187	9.4	8.2	8.8	57	54	55	190	180	189	10.0	8.3	9.1	60	56	58
24	190	180	185	9.4	8.7	9.1	54	50	52	190	180	186	9.7	8.1	8.9	59	57	58
25	200	185	194	10.0	8.9	9.5	54	50	52	190	180	188	9.3	8.0	8.6	57	56	57
26	205	195	198	9.6	8.9	9.3	52	50	51	190	190	190	9.7	8.2	8.9	57	55	56
27	200	160	189	9.6	8.7	9.1	51	49	49	190	180	189	8.6	8.3	--	62	56	59
28	190	160	173	10.4	9.4	9.9	51	48	49	210	200	201	--	--	--	66	61	63
29	165	160	161	9.5	9.1	9.3	54	49	52	230	210	214	--	--	--	65	63	64
30	160	150	156	9.5	8.7	9.0	57	52	55	230	210	217	--	--	--	64	60	62
31										220	200	209	--	--	--	63	60	62

1-4547.2. LEHIGH RIVER AT EASTON, PA.--Continued

Specific conductance (micromhos at 25°C), dissolved oxygen, in parts per million, and temperature (°F) of water, water year October 1966 to September 1967--Continued

Day	JUNE									JULY								
	Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)			Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	230	220	223	--	--	--	66	61	64	300	290	298	5.6	4.1	4.8	73	70	71
2	240	230	233	--	--	--	69	64	67	300	290	297	5.3	4.3	4.7	76	72	74
3	240	230	236	--	--	--	71	67	69	300	230	259	5.1	4.1	4.5	75	73	74
4	230	230	230	--	--	--	73	68	71	260	230	247	5.0	3.9	4.4	75	73	74
5	260	230	242	--	--	--	74	70	72	240	230	231	5.9	4.5	5.1	74	71	72
6	250	230	244	--	--	--	74	70	72	270	240	255	5.5	4.1	4.8	75	71	73
7	270	240	258	--	--	--	74	71	73	270	270	270	5.3	4.0	4.6	74	72	73
8	270	260	262	--	--	--	75	71	73	280	270	278	5.4	4.2	4.7	75	72	73
9	260	230	250	--	--	--	76	71	74	300	280	291	5.0	3.6	4.2	78	73	75
10	240	220	229	--	--	--	76	73	75	290	240	277	4.6	3.2	3.8	79	75	76
11	240	220	227	--	--	--	78	73	75	300	190	249	4.4	3.1	3.6	76	72	74
12	240	230	232	--	--	--	79	75	77	290	260	272	3.9	2.5	3.3	79	74	77
13	260	240	257	--	--	--	79	77	78	300	280	291	2.6	1.6	2.2	79	76	77
14	280	260	270	--	--	--	76	73	75	320	300	308	2.7	1.8	--	79	76	77
15	300	280	286	--	--	--	76	73	74	320	300	309	--	--	--	76	74	75
16	300	290	297	--	--	--	79	74	76	310	290	298	--	--	--	75	73	74
17	310	300	302	--	--	--	80	76	78	300	280	288	--	--	--	76	73	74
18	310	240	287	--	--	--	79	72	77	310	290	300	--	--	--	75	74	74
19	260	230	245	--	--	--	72	69	71	310	300	300	4.7	3.3	--	76	74	75
20	260	240	253	--	--	--	71	68	70	310	290	297	4.6	3.8	4.2	78	75	76
21	250	240	245	--	--	--	73	68	71	310	280	295	4.6	3.3	3.7	78	76	77
22	250	240	242	--	--	--	75	72	73	310	280	294	4.0	3.0	3.5	78	75	76
23	250	250	250	--	--	--	75	73	74	310	290	296	4.5	3.1	3.8	79	75	77
24	240	230	237	--	--	--	77	73	75	300	290	295	4.6	3.5	3.9	80	77	78
25	230	230	230	--	--	--	78	75	77	280	230	261	4.1	2.9	3.3	77	74	76
26	250	230	233	--	--	--	77	73	75	310	290	297	3.7	2.7	3.1	79	76	78
27	280	240	258	5.4	4.3	--	76	73	75	310	300	307	4.2	2.8	3.4	81	77	79
28	280	270	277	5.4	3.9	4.6	76	74	75	320	300	315	3.3	3.0	3.2	80	75	78
29	290	280	285	5.2	4.3	4.7	73	72	73	310	280	292	3.4	2.8	3.2	76	73	74
30	300	290	295	4.9	4.1	4.5	72	70	71	310	300	308	4.2	3.0	3.7	77	75	76
31										320	310	316	4.2	3.5	3.8	78	75	76
	AUGUST									SEPTEMBER								
1	350	320	330	3.7	3.0	3.3	80	76	78	280	270	274	5.2	4.2	4.7	71	68	70
2	340	330	337	3.9	2.6	3.1	81	76	78	280	270	277	5.2	4.3	4.8	70	68	69
3	340	220	305	4.5	2.4	3.1	78	74	77	270	270	270	5.4	4.5	4.9	69	66	68
4	220	170	188	6.2	4.6	5.8	74	71	72	270	260	267	5.5	4.6	5.0	71	67	69
5	180	170	174	6.4	6.0	6.2	72	70	71	280	260	273	6.3	4.0	5.0	72	68	70
6	190	180	183	6.3	5.9	6.1	72	70	71	290	270	281	5.9	4.0	4.8	73	70	72
7	200	190	192	6.1	5.3	--	73	70	72	290	290	290	5.6	3.6	4.5	75	72	73
8	210	200	203	5.3	4.8	5.1	73	71	72	300	290	296	4.8	3.4	4.1	74	72	73
9	220	200	211	5.2	4.7	5.0	73	71	72	300	280	294	4.2	3.3	3.8	72	72	72
10	210	210	--	5.0	4.7	--	73	72	--	290	280	284	5.0	3.3	4.0	72	69	71
11	--	--	--	--	--	--	--	--	--	280	260	265	6.1	4.5	5.1	69	67	68
12	--	--	--	--	--	--	--	--	--	280	260	274	5.6	4.4	5.0	69	66	67
13	--	--	--	--	--	--	--	--	--	290	270	282	5.4	4.3	4.8	69	66	67
14	220	210	--	6.4	5.9	--	72	71	--	290	280	285	5.4	3.9	4.6	71	66	68
15	230	220	224	5.9	5.4	5.7	74	69	72	300	280	293	5.3	3.7	4.3	71	68	69
16	230	220	230	5.8	5.0	5.3	75	71	73	320	300	308	4.3	3.4	4.0	70	68	69
17	250	230	233	5.4	4.5	4.9	75	72	74	320	220	252	5.1	3.4	4.4	72	68	70
18	270	230	256	4.8	4.0	4.4	77	74	76	220	170	185	5.2	4.3	4.7	73	69	71
19	290	260	277	4.4	3.6	4.1	78	75	77	200	180	197	4.8	3.6	4.2	73	70	72
20	290	280	288	4.3	3.4	4.0	77	75	76	270	200	229	3.8	2.8	3.4	75	71	73
21	300	280	288	4.8	4.0	4.4	76	74	75	310	270	294	3.0	2.4	2.8	73	72	73
22	310	290	302	4.5	3.7	4.2	77	74	75	310	290	298	3.7	2.5	3.0	72	68	71
23	310	300	309	4.6	3.6	4.1	74	72	73	320	300	310	4.4	3.4	3.9	68	64	66
24	320	300	311	4.5	3.8	4.2	72	70	71	320	240	266	6.2	4.4	5.5	64	60	61
25	310	260	289	4.9	4.1	4.6	69	65	67	260	190	215	6.8	6.1	6.4	61	58	60
26	260	250	258	5.6	5.0	5.3	66	65	65	210	200	207	6.5	5.8	6.2	63	59	61
27	260	250	252	5.6	5.0	5.2	68	65	67	240	210	224	6.0	5.1	5.5	66	62	64
28	270	250	261	5.5	5.0	5.2	71	68	69	270	240	250	5.1	4.1	4.5	67	65	66
29	260	250	251	5.5	5.0	5.2	73	68	71	320	280	289	4.2	3.1	3.7	71	67	69
30	260	250	254	5.2	4.4	4.7	74	70	72	320	290	301	4.6	3.0	3.7	70	65	68
31	270	260	266	4.7	3.9	4.4	73	71	72									

1-4635. DELAWARE RIVER AT TRENTON, N. J. (MORRISVILLE, PA.)

LOCATION (revised).--Lat 40°13'18", long 74°46'42", at gaging station at Calhoun Street bridge, at Trenton, Mercer County. Water-quality recorder located at raw-water intake of the Trenton Water Department about 100 feet upstream from bridge.
DRAINAGE AREA.--6,780 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1944 to September 1967.
Water temperatures: October 1944 to September 1967.
Sediment records: September 1949 to September 1967.
EXTREMES, 1966-67.--Specific conductance: Maximum daily, 301 micromhos Aug. 24; minimum daily, 88 micromhos Apr. 5.
Dissolved oxygen: Maximum daily, 16.2 ppm Jan. 23; minimum daily, 4.8 ppm June 19.
Water temperatures: Maximum, 87°F June 17; minimum, 33°F Dec. 29.
Sediment concentrations: Maximum daily, 650 ppm Oct. 20; minimum daily, 1 ppm on several days in October and November.
Sediment loads: Maximum daily, 53,600 tons Mar. 7; minimum daily, 6 tons Oct. 18.
EXTREMES, 1944-67.--Dissolved solids (1944-47, 1950-51, 1953-56, 1958-59): Maximum, 156 ppm Oct. 1-9, 1953; minimum, 44 ppm Mar. 21-31, 1945.
Hardness (1944-47, 1949-59): Maximum, 103 ppm Oct. 1-9, 1953; minimum, 25 ppm Apr. 1-10, 1950 and Feb. 21-28, 1954.
Specific conductance: Maximum daily, 400 micromhos Jan. 24, 1959; minimum daily, 50 micromhos Mar. 19, 1945.
Dissolved oxygen (1962-67): Maximum daily, 16.2 ppm Jan. 23, 1967; minimum daily, 4.6 ppm July 10, 1965.
Water temperatures: Maximum, 93°F June 18, 1957; minimum, freezing point on many days during winter months.
Sediment concentrations (1949-67): Maximum daily, 1,720 ppm Nov. 26, 1950; minimum daily, 0 ppm Oct. 21, 1952.
Sediment loads (1949-67): Maximum daily, 1,087,000 tons Aug. 20, 1955; minimum daily, 0 tons Oct. 21, 1952.
REMARKS.--Pertaining to dissolved oxygen, maximum extreme as reported represents instrument scale limit. Apparently greater concentrations existed as algal photosynthesis is a factor at this site. Where no potassium (K) is reported, sodium (Na) and potassium (K) are calculated and reported as sodium (Na). Further information on this station is given in U. S. Geological Survey Water-Supply Paper 1779-X.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Lithium (Li)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Phosphate (PO_4)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color	Oxygen consumed: Filtered	Oxygen consumed: Unfiltered
Oct. 11-20, 1966.....	3420							12			50	0	33	10		5.7			69	28		187	6.7	7		
Nov. 1-10....	4170							9.0			46	0	29	9.0		5.3			65	28		178	6.9	8		
Dec. 1-10....	7470							8.5			35	0	29	7.5		5.5			55	27		149	6.6	13		
Jan. 1-10, 1967.....	7130							9.0			40	0	32	9.5		5.7			65	32		175	7.2	7		
Feb. 1-10....	11600							5.8			30	0	26	7.5		4.6			53	29		138	7.1	5		
Mar. 1-10....	12200							9.4			39	0	32	9.5		7.1			64	32		178	6.8	5		
Apr. 1-10....	29500							8.3			24	0	20	5.0		3.2			32			101	7.4	5		
Apr. 12.....	16100	3.6		0.01	0.00	12	4.0	4.0	1.2		24	0	22	6.1	0.2	2.7	0.08	82	47	27		118	7.0	2		
May 1-10.....	13700							9.9			40	0	30	6.5		3.0			54	21		145	6.7	10		
June 1-10....	5840							6.9			52	0	28	6.5		3.4			68	26		172	7.0	3		
July 1-8.....	5320							8.5			50	0	28	7.5		5.2			66	25		169	7.0	4		
Aug. 1-10....	14300							8.0			49	0	29	7.0		4.6			66	26		176	7.0	12		
Sept. 1-10...	5480							7.8			62	0	25	13		4.2			82	31		198	7.3	8		

1-4635. DELAWARE RIVER AT TRENTON, N. J. (MORRISVILLE, PA.)--Continued

Specific conductance (micromhos at 25°C), water year October 1966 to September 1967

Day	October	November	December	January	February	March	April	May	June	July	August	September
1.....	--	185	161	204	128	180	98	164	157	154	187	162
2.....	--	188	129	166	138	186	96	133	155	162	188	172
3.....	--	187	130	167	132	176	98	145	162	168	195	185
4.....	--	190	141	179	138	186	96	186	169	159	162	196
5.....	--	211	151	170	141	174	88	146	164	169	159	186
6.....	--	183	141	170	132	170	100	129	169	160	151	185
7.....	--	169	156	167	136	173	131	153	179	158	160	204
8.....	--	154	161	165	144	161	111	143	181	163	158	209
9.....	--	152	154	181	137	176	104	138	202	--	165	213
10.....	--	161	159	181	163	179	106	121	195	--	170	202
11.....	188	158	149	176	181	177	--	128	193	164	168	195
12.....	194	166	143	181	161	186	118	134	185	176	162	189
13.....	187	177	151	166	161	165	126	134	185	189	192	158
14.....	185	172	137	177	153	138	127	111	189	167	171	204
15.....	196	164	129	165	159	135	143	116	196	144	180	213
16.....	190	157	128	173	172	159	140	123	182	154	187	209
17.....	188	181	139	170	181	134	141	117	195	163	193	206
18.....	185	158	138	178	168	130	143	108	210	178	191	202
19.....	180	161	149	178	157	136	141	115	181	180	198	198
20.....	195	168	148	175	169	137	128	116	192	191	189	195
21.....	197	170	156	181	159	139	118	119	177	182	189	177
22.....	185	163	148	193	167	148	121	122	161	182	180	185
23.....	184	165	147	180	169	149	127	126	242	185	207	173
24.....	192	174	132	185	185	146	130	133	166	184	301	195
25.....	193	175	177	181	179	160	141	134	155	208	284	193
26.....	190	175	152	146	187	157	144	132	145	181	196	204
27.....	193	167	163	131	177	156	136	134	132	176	192	186
28.....	190	169	178	121	175	154	155	137	144	187	181	185
29.....	195	179	176	115	--	153	152	138	148	187	174	183
30.....	196	189	200	114	--	136	146	145	238	189	177	207
31.....	195	--	177	180	--	105	--	162	--	202	157	--
Average	--	172	153	166	158	156	124	133	178	174	185	193

1-4635. DELAWARE RIVER AT TRENTON, N. J. (MORRISVILLE, PA.)--Continued

Dissolved oxygen, in parts per million, and temperature (°F) of water, water year October 1966 to September 1967

Day	OCTOBER									NOVEMBER								
	Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)			Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1				9.9	7.9	8.8	65	60	62				11.0	10.3	10.7	57	52	54
2				12.0	8.6	10.1	63	57	6				10.5	9.9	10.2	59	56	57
3				10.5	9.0	9.6	64	59	61				13.0	9.6	10.9	60	54	58
4				11.2	8.8	9.8	65	60	62				13.8	9.7	11.5	54	52	53
5				10.9	8.5	9.5	64	60	63				12.0	10.5	--	53	50	--
6				12.4	8.8	10.4	62	59	61				11.8	10.5	--	52	51	--
7				13.2	9.2	11.0	63	57	60				12.6	10.4	11.2	52	50	51
8				13.7	9.1	11.0	65	58	61				12.8	10.3	11.2	53	50	51
9				14.0	8.6	10.9	67	61	64				12.4	9.9	10.9	55	52	53
10				12.5	8.3	10.2	66	63	65				11.3	9.4	--	58	54	56
11				13.2	8.2	10.4	64	60	62				12.4	8.8	10.2	60	57	58
12				13.3	8.7	10.6	63	59	61				11.2	8.9	9.7	58	56	57
13				14.0	9.2	11.1	63	57	60				12.0	9.0	10.2	56	53	55
14				13.5	9.0	10.8	64	59	61				12.1	9.7	10.7	54	51	52
15				13.8	8.7	10.7	65	60	62				12.6	10.2	11.2	52	49	50
16				12.5	8.4	10.0	66	61	63				12.0	10.7	--	50	48	49
17				12.0	8.3	9.9	61	58	6				12.7	10.7	11.5	51	49	50
18				13.7	8.4	10.7	60	56	58				11.9	10.1	10.8	52	50	51
19				10.1	9.2	9.5	57	55	56				12.3	10.1	11.0	51	48	50
20				10.2	9.1	9.5	57	55	56				13.2	10.5	11.6	49	46	47
21				10.9	9.3	10.0	58	54	56				13.4	11.5	--	49	45	--
22				12.1	9.7	10.7	59	55	56				11.9	11.1	--	47	44	45
23				12.6	9.7	10.8	59	55	57				13.0	10.9	--	47	43	44
24				13.1	9.7	11.1	59	57	58				12.7	11.0	--	48	43	45
25				12.2	9.6	10.5	58	56	58				13.4	10.4	11.7	50	46	48
26				14.1	9.3	11.4	59	55	57				10.4	10.4	--	49	49	--
27				14.3	9.9	11.7	60	54	57				--	--	--	--	--	--
28				14.6	9.8	11.4	60	54	57				--	--	--	--	--	--
29				14.4	9.6	11.7	59	55	57				--	--	--	--	--	--
30				14.9	10.2	12.1	55	52	53				--	--	--	--	--	--
31				11.2	10.4	10.8	55	50	52									
	DECEMBER									JANUARY								
1				10.2	10.0	--	--	--	--				13.3	12.7	12.9	--	--	--
2				10.2	10.0	--	45	44	--				13.3	12.3	12.9	39	36	--
3				12.1	10.6	--	40	39	--				13.7	12.4	12.9	--	--	--
4				12.6	11.6	12.2	39	39	--				12.8	12.1	12.4	38	37	--
5				12.6	12.0	12.4	38	38	--				13.3	12.0	12.5	39	37	--
6				12.6	11.7	12.2	41	38	39				13.2	11.8	12.4	38	36	37
7				11.9	11.2	11.5	42	40	41				12.8	11.6	12.1	37	36	37
8				12.1	10.8	11.3	45	42	43				12.4	11.5	11.9	38	37	38
9				11.8	10.7	11.1	46	44	45				14.7	11.3	13.3	39	37	--
10				11.3	10.1	10.7	49	45	47				15.0	13.6	14.3	38	36	--
11				10.6	9.8	10.2	49	47	49				14.8	13.9	--	38	36	37
12				11.8	10.1	11.0	47	45	46				14.8	14.1	--	37	36	--
13				11.8	10.9	11.3	45	42	44				14.7	13.7	--	38	37	--
14				11.8	11.3	11.6	42	41	42				14.4	13.4	13.8	--	--	--
15				12.1	11.5	11.8	42	41	41				15.0	13.1	13.7	--	--	--
16				12.5	11.6	12.0	41	40	41				14.8	13.3	--	39	39	--
17				--	--	--	42	40	41				15.0	14.3	--	39	38	--
18				--	--	--	43	41	42				14.7	13.9	--	39	36	38
19				13.4	13.0	--	42	39	41				15.0	14.3	--	37	35	36
20				--	--	--	39	38	39				15.0	14.3	--	36	34	35
21				13.7	12.7	--	39	37	38				15.0	14.6	--	38	34	36
22				14.1	12.6	13.3	40	37	38				15.0	13.9	--	40	36	38
23				14.7	12.9	14.0	39	38	38				15.0	13.7	14.6	43	39	41
24				--	--	--	38	35	37				15.0	13.4	14.3	44	42	43
25				--	--	--	--	--	--				14.5	13.1	13.6	44	43	43
26				--	--	--	--	--	--				13.4	12.7	13.0	45	44	44
27				--	--	--	--	--	--				12.8	12.3	12.6	44	41	42
28				13.5	12.9	--	--	--	--				12.8	12.5	12.7	41	39	40
29				13.1	12.3	12.6	34	33	--				12.9	12.4	12.7	39	37	38
30				13.3	12.3	12.7	--	--	--				13.3	12.7	13.0	37	36	37
31				13.2	12.4	12.8	--	--	--				13.8	13.1	13.5	37	35	36

1-4635. DELAWARE RIVER AT TRENTON, N. J. (MORRISVILLE, PA.)--Continued

Dissolved oxygen, in parts per million, and temperature (°F) of water, water year October 1966 to September 1967--Continued

Day	FEBRUARY									MARCH								
	Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)			Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1				13.8	13.2	13.5	38	36	37				--	--	--	38	35	37
2				13.5	13.0	13.3	40	38	39				14.6	13.1	--	38	36	37
3				13.7	12.9	13.2	39	38	38				15.0	13.3	--	43	37	40
4				13.4	13.0	13.2	39	38	38				14.9	13.9	--	43	42	42
5				13.5	12.7	13.1	40	38	39				14.3	13.0	13.7	42	40	41
6				13.4	12.7	--	39	37	38				14.8	13.6	14.1	41	40	41
7				--	--	--	37	34	35				13.8	12.8	--	39	37	38
8				--	--	--	34	34	34				13.7	13.5	--	38	36	37
9				--	--	--	36	34	--				13.8	13.1	--	41	38	39
10				--	--	--	--	--	--				--	--	--	44	41	42
11				--	--	--	--	--	--				--	--	--	46	44	45
12				--	--	--	--	--	--				--	--	--	46	44	45
13				--	--	--	35	34	--				--	--	--	45	44	44
14				--	--	--	36	34	--				--	--	--	44	44	44
15				--	--	--	--	--	--				--	--	--	44	43	43
16				--	--	--	41	39	--				--	--	--	43	42	--
17				--	--	--	39	38	38				--	--	--	--	--	--
18				--	--	--	39	37	38				--	--	--	--	--	--
19				--	--	--	38	36	37				--	--	--	--	--	--
20				--	--	--	37	37	37				--	--	--	38	37	--
21				--	--	--	39	37	38				--	--	--	38	37	38
22				--	--	--	39	36	38				--	--	--	39	38	39
23				--	--	--	40	38	38				13.1	12.3	12.7	40	39	40
24				--	--	--	38	36	37				12.8	11.5	12.1	42	40	41
25				--	--	--	35	34	34				12.9	11.9	12.4	45	42	44
26				--	--	--	35	34	34				12.2	12.0	--	48	44	46
27				--	--	--	36	34	35				11.9	11.4	11.7	48	46	47
28				--	--	--	39	35	37				11.9	11.5	11.6	49	47	48
29													11.6	11.3	11.5	48	48	48
30													11.6	11.3	--	48	46	47
31													--	--	--	46	45	46
	APRIL									MAY								
1				--	--	--	48	46	47				13.0	11.1	--	61	57	59
2				--	--	--	50	48	49				12.4	10.0	10.9	62	60	61
3				--	--	--	52	50	51				12.4	9.3	10.8	63	60	61
4				--	--	--	52	50	51				12.4	9.8	11.0	63	60	62
5				11.8	11.4	--	50	49	50				12.1	9.8	10.7	62	60	61
6				11.8	11.1	11.3	50	49	50				--	--	--	62	58	60
7				11.4	11.2	--	50	50	50				--	--	--	58	53	56
8				--	--	--	51	49	50				10.5	10.2	--	55	52	53
9				--	--	--	51	49	50				10.6	10.2	10.4	54	53	54
10				11.2	10.6	--	53	50	52				10.8	10.1	10.5	54	52	53
11				10.7	10.5	--	52	50	51				10.3	9.8	10.0	54	53	53
12				--	--	--	52	49	51				10.0	9.5	9.8	55	52	53
13				--	--	--	52	50	51				10.5	9.9	10.1	54	52	53
14				--	--	--	53	51	52				10.3	9.8	10.0	54	54	54
15				--	--	--	56	52	54				10.4	9.7	9.9	56	54	55
16				--	--	--	59	55	57				10.7	9.8	10.3	57	54	56
17				--	--	--	58	54	56				10.9	10.3	10.6	57	55	56
18				--	--	--	56	54	55				10.6	9.9	10.2	60	56	58
19				--	--	--	55	54	54				10.5	8.7	9.7	62	59	61
20				--	--	--	55	52	54				11.0	9.4	10.2	64	61	63
21				--	--	--	56	54	55				10.8	9.6	10.3	64	62	62
22				--	--	--	59	56	57				10.9	9.8	--	62	61	--
23				--	--	--	58	56	56				11.0	9.5	10.2	62	60	61
24				--	--	--	56	54	--				10.8	9.0	9.9	62	60	61
25				--	--	--	56	52	54				10.2	9.3	9.8	60	57	59
26				13.1	11.5	--	55	53	54				11.4	9.1	10.2	59	57	58
27				12.3	10.9	11.5	53	51	51				12.0	9.2	10.6	63	58	61
28				11.8	10.6	--	53	49	52				11.5	9.4	10.4	66	62	64
29				--	--	--	55	52	54				9.7	8.2	8.9	65	62	63
30				--	--	--	58	54	56				11.4	8.0	9.8	66	61	64
31													11.8	8.1	10.0	67	64	65

1-4635. DELAWARE RIVER AT TRENTON, N. J. (MORRISVILLE, PA.)--Continued

Dissolved oxygen, in parts per million, and temperature (°F) of water, water year October 1966 to September 1967--Continued

Day	JUNE									JULY								
	Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)			Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1				12.3	8.7	10.6	69	64	66				10.4	6.9	8.6	76	72	--
2				12.1	8.4	10.3	72	66	69				11.1	7.3	9.0	--	--	--
3				11.9	7.9	9.9	75	69	72				9.7	6.8	8.2	81	78	--
4				11.9	7.5	9.7	77	71	74				9.9	7.0	8.4	81	77	78
5				9.3	7.3	--	74	72	--				9.5	7.0	8.2	77	76	--
6				--	--	--	--	--	--				10.5	6.7	8.6	--	--	--
7				10.7	8.6	--	--	--	--				10.8	7.7	9.2	78	75	--
8				10.9	6.1	8.5	80	77	--				11.4	7.3	9.3	79	74	76
9				11.0	5.8	8.6	--	--	--				10.7	7.0	8.7	76	76	--
10				11.0	5.9	8.4	83	83	--				10.5	6.5	8.2	85	80	--
11				10.8	5.5	8.3	85	82	--				8.5	5.2	6.9	82	80	--
12				11.7	5.5	8.8	86	83	--				5.6	5.0	5.3	82	80	--
13				11.9	6.3	8.9	84	79	82				6.6	5.3	5.9	82	79	--
14				11.6	5.9	8.7	80	76	78				6.8	5.9	6.3	80	79	--
15				11.7	6.2	8.6	79	75	77				7.3	6.1	6.6	--	--	--
16				12.4	6.0	9.4	84	77	80				7.6	5.9	6.6	--	--	--
17				12.3	6.0	9.3	87	80	83				8.8	6.4	7.4	--	--	--
18				10.0	5.4	7.0	84	80	82				9.2	6.5	7.6	80	78	--
19				6.8	4.8	5.9	80	75	78				6.9	6.9	--	80	76	78
20				6.3	5.7	6.0	75	73	74				--	--	--	80	77	78
21				8.1	6.3	7.1	78	73	76				10.2	9.4	--	83	75	79
22				8.4	6.3	7.3	79	76	77				5.8	5.8	--	--	--	--
23				7.8	5.9	6.8	79	76	77				8.8	5.4	--	--	--	--
24				8.6	6.2	7.2	82	77	80				8.7	6.1	--	85	82	--
25				7.6	6.2	6.7	83	80	81				8.4	5.8	6.8	85	82	--
26				8.9	6.5	7.7	81	77	--				7.7	5.6	6.5	82	81	--
27				9.3	7.2	8.2	--	--	--				8.1	5.2	6.5	85	82	--
28				9.2	7.1	8.2	--	--	--				8.3	5.6	6.8	83	78	82
29				9.8	7.1	8.5	78	75	--				7.1	6.3	6.7	81	78	79
30				9.1	7.3	8.0	75	72	74				7.7	5.8	6.8	82	77	79
31													7.6	6.1	--	81	78	--
	AUGUST									SEPTEMBER								
1				9.6	7.2	--	85	82	--				9.5	7.6	8.4	74	70	72
2				9.2	6.2	7.6	85	81	82				10.5	8.0	9.0	73	68	70
3				7.5	5.9	6.6	81	75	79				11.1	7.8	9.3	72	66	69
4				7.0	5.2	6.3	76	74	74				11.7	7.8	9.7	75	68	72
5				7.0	6.5	--	77	74	75				12.1	8.2	9.9	77	69	73
6				7.2	6.3	6.8	77	73	75				12.6	7.9	9.9	78	70	74
7				7.4	6.6	7.1	78	76	77				12.7	7.6	9.9	79	72	75
8				7.5	7.0	7.3	79	77	78				12.5	7.3	9.5	80	74	77
9				7.4	6.8	7.0	79	77	78				11.7	7.0	8.9	78	75	76
10				6.9	6.6	6.8	78	76	77				10.2	6.4	7.9	75	69	74
11				7.4	6.5	7.1	78	76	77				12.1	7.0	9.4	73	66	70
12				7.9	7.1	7.6	76	74	75				8.7	8.0	--	68	66	--
13				7.9	6.8	7.2	75	73	74				--	--	--	--	--	--
14				8.7	7.8	8.2	77	72	75				10.3	8.2	--	74	70	--
15				8.9	8.1	8.5	79	74	76				12.8	7.4	9.8	75	68	71
16				9.0	8.1	8.5	80	75	78				9.7	6.7	8.1	69	69	69
17				9.6	7.6	8.4	81	77	79				11.7	6.2	8.8	76	68	72
18				10.2	7.1	8.4	82	78	80				10.7	7.0	8.6	77	72	75
19				10.5	6.6	8.2	83	80	81				11.4	6.7	8.8	78	72	75
20				9.7	6.9	8.3	81	80	80				11.1	6.5	8.5	79	74	76
21				10.9	7.2	8.8	81	78	79				10.0	6.1	7.7	76	72	75
22				10.9	7.7	9.1	81	78	79				10.1	6.0	8.0	74	69	72
23				10.4	7.0	8.6	79	76	78				10.4	7.0	8.6	68	64	66
24				10.3	7.7	8.8	75	73	74				10.1	7.5	8.6	64	62	63
25				9.4	7.6	8.2	73	71	72				11.8	7.4	9.7	64	60	62
26				8.2	7.2	7.7	72	70	71				12.2	8.2	10.1	65	60	62
27				8.0	7.3	7.7	73	71	72				11.4	8.5	9.7	66	61	--
28				8.7	7.7	8.3	73	69	71				10.1	7.1	8.6	--	--	--
29				8.7	8.2	8.5	74	69	72				9.9	6.7	8.1	--	--	--
30				8.5	8.1	8.3	75	73	74				10.4	7.2	8.6	--	--	--
31				8.2	7.7	8.0	76	73	75									

DELAWARE RIVER BASIN--Continued

1-4635. DELAWARE RIVER AT TRENTON, N. J. (MORRISVILLE, PA.)--Continued

Temperature (°F) of water, water year October 1966 to September 1967

MONTH	DAY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER..	--	--	--	--	--	--	--	--	--	--	61	61	59	60	61	64	62	58	58	58	58	57	57	58	58	57	57	56	57	54	52	--
NOVEMBER.	56	57	58	55	54	53	52	52	54	52	58	59	56	53	53	50	55	53	53	49	47	46	45	46	48	51	50	51	50	50	--	52
DECEMBER.	48	48	44	41	40	39	43	45	47	48	50	48	46	45	44	42	43	44	44	42	40	40	38	39	38	37	39	38	39	38	40	42
JANUARY..	40	40	41	41	41	38	40	41	40	41	40	40	40	41	42	43	40	41	38	38	39	41	43	45	46	47	44	42	41	41	41	41
FEBRUARY.	39	41	37	41	41	41	38	38	38	37	40	41	38	39	40	45	44	41	39	42	41	42	42	42	39	35	38	39	--	--	--	39
MARCH....	40	40	44	44	43	43	43	40	43	44	47	47	46	46	45	45	46	40	40	40	41	42	42	43	45	48	49	49	49	49	45	44
APRIL....	48	50	52	51	50	51	52	50	50	51	--	50	50	51	53	55	56	54	54	54	54	55	56	55	54	53	52	52	53	55	--	52
MAY.....	57	60	60	60	58	60	58	53	54	54	53	54	53	54	54	55	55	57	60	61	--	60	60	60	60	58	59	61	64	62	64	57
JUNE.....	64	64	68	70	72	73	73	74	73	75	77	78	78	74	73	76	79	80	77	72	71	77	75	77	79	75	75	75	73	72	--	73
JULY.....	70	74	77	76	74	76	75	73	--	--	79	73	79	79	78	76	76	77	76	76	77	77	78	79	80	80	80	80	77	76	76	77
AUGUST...	78	78	75	74	73	72	74	75	75	76	74	72	73	71	72	74	75	76	78	78	76	76	75	72	70	70	70	69	70	71	74	73
SEPTEMBER	68	68	66	68	69	69	73	76	73	76	67	66	66	68	68	69	69	71	71	72	73	70	67	64	63	53	63	65	66	66	--	68

1-4635. DELAWARE RIVER AT TRENTON, N. J. (MORRISVILLE, PA.)--Continued

Suspended sediment, water year October 1966 to September 1967

Day	OCTOBER			NOVEMBER			DECEMBER		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	2700	1	7	2730	1	7	12300	455	15100
2..	4380	5	59	2620	1	7	10500	290	8220
3..	6150	8	133	2980	8	64	8490	80	1830
4..	5400	3	44	3880	10	105	7630	15	309
5..	4600	1	12	5160	15	209	6300	10	170
6..	3840	1	10	5790	53	829	5400	3	44
7..	3520	1	10	5280	10	143	5740	10	155
8..	3160	1	9	4560	2	25	6030	11	179
9..	2730	1	7	4310	5	S 61	6100	8	132
10..	2530	1	7	4350	21	247	6180	11	184
11..	2530	1	7	4060	9	99	6610	11	196
12..	2500	2	14	4860	22	S 288	6540	11	194
13..	2530	4	27	5360	34	492	7220	11	214
14..	2530	1	7	5790	36	563	8780	7	166
15..	2620	2	14	5320	8	115	8460	10	228
16..	2820	5	38	4970	2	27	7910	8	171
17..	2620	2	14	4860	1	13	7490	5	101
18..	2270	1	6	4530	5	61	6990	3	57
19..	4560	380	4680	4240	3	34	6660	3	54
20..	9220	650	A 16200	3990	6	65	5940	3	48
21..	6190	130	2170	4060	1	11	6780	16	293
22..	4940	11	147	3740	1	10	6580	19	338
23..	3520	5	48	3160	4	34	6060	14	229
24..	3630	3	29	3420	2	18	6020	8	130
25..	3460	4	37	3460	5	47	5450	5	74
26..	3130	7	59	3810	4	41	4410	4	48
27..	2980	5	40	3360	2	18	4570	3	37
28..	2910	3	24	3520	4	38	5120	3	41
29..	2850	2	15	8150	45	990	6070	4	66
30..	2940	3	24	10200	310	8540	9800	18	476
31..	2850	2	15	--	--	--	9500	8	205
Total	112610	--	23913	136520	--	13201	217630	--	29689

Day	JANUARY			FEBRUARY			MARCH		
1..	8460	5	114	15600	20	842	5670	8	122
2..	7590	3	61	14200	20	767	5450	8	118
3..	7160	3	58	14000	20	756	5140	8	111
4..	6700	3	54	13100	15	531	6450	6	104
5..	6750	5	91	12700	7	240	5840	5	79
6..	6910	7	131	11500	5	155	8360	26	587
7..	6590	5	89	11000	6	178	34400	522	S 53600
8..	6680	5	90	9300	8	201	21100	150	8550
9..	7000	14	265	7430	9	181	14900	70	2820
10..	7500	7	142	7560	9	184	14700	23	913
11..	7800	10	211	8660	9	210	15300	26	1070
12..	7790	8	168	8760	7	166	19200	52	2700
13..	7380	6	120	7850	8	170	24800	80	5360
14..	7230	4	78	6540	6	106	25800	74	5150
15..	7330	5	99	7030	11	209	24200	42	2740
16..	7390	6	120	7600	34	698	31300	47	3970
17..	6690	5	90	8100	21	459	29000	27	2110
18..	6200	6	100	8600	10	232	23800	23	1480
19..	5950	5	80	8200	8	177	19900	15	806
20..	4920	5	66	7520	6	122	17000	10	459
21..	5540	6	90	6980	5	94	16100	8	348
22..	5500	3	45	6600	4	71	15800	6	256
23..	5300	5	72	6190	3	50	14700	8	318
24..	6530	9	159	6000	6	97	13500	8	292
25..	8680	24	562	5850	10	158	14400	12	467
26..	13000	62	2180	5300	5	72	15300	22	909
27..	23300	282	S 19100	5360	5	72	15500	12	502
28..	30800	215	17900	5270	6	85	16900	15	684
29..	30500	105	8650	--	--	--	21900	38	2250
30..	24900	50	3360	--	--	--	34400	75	6970
31..	18800	20	1020	--	--	--	41500	106	11900
Total	312870	--	55365	242800	--	7283	572310	--	117745

S Computed by subdividing day.
A Computed from partly estimated-concentration graph.

1-4635. DELAWARE RIVER AT TRENTON, N. J. (MORRISVILLE, PA.)--Continued

Suspended sediment, water year October 1966 to September 1967--Continued

Day	APRIL			MAY			JUNE		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1..	37400	68	6870	10400	8	225	7510	4	81
2..	35900	38	3680	9420	7	178	7010	3	57
3..	36200	39	3810	9600	7	181	6360	3	52
4..	37800	56	5720	10600	8	229	6110	2	33
5..	31400	45	3820	12200	12	395	5690	3	46
6..	24900	28	1880	11900	14	450	5250	2	28
7..	23900	19	1230	13900	17	638	5180	3	42
8..	25200	22	1500	19300	40	2080	5290	5	71
9..	23000	20	1240	20600	40	2220	5070	4	55
10..	19600	16	847	18800	25	1270	4910	4	53
11..	17500	15	709	17400	15	705	4540	5	61
12..	16100	13	565	21900	24	1420	4430	5	60
13..	14500	8	313	26800	47	3400	4460	5	60
14..	13100	7	248	23200	36	2260	4430	4	48
15..	12100	6	196	20300	18	987	4600	10	124
16..	11200	6	181	20300	16	877	3830	8	83
17..	10600	5	143	22800	15	923	4260	13	150
18..	12700	8	274	20400	14	771	5830	30	472
19..	14200	15	575	18100	14	684	7840	293 S	6470
20..	14500	13	509	16700	14	631	7560	260	5310
21..	12900	8	279	15500	13	544	8240	100	2220
22..	11400	7	215	14300	12	463	8100	60	1310
23..	10600	7	200	13400	11	398	7250	58	1140
24..	9830	6	159	12100	10	327	7070	52	993
25..	9980	8	216	11400	8	246	10300	59	1640
26..	11000	18	535	10500	6	170	8760	39	922
27..	11500	15	466	10000	5	135	7530	24	488
28..	13800	12	447	9200	4	99	7170	18	348
29..	12700	9	309	8270	4	89	6550	15	265
30..	11600	8	251	8410	2	45	5770	14	218
31..	--	--	--	8890	5	120	--	--	--
Total	547110	--	37387	466590	--	23160	186900	--	22900

	JULY			AUGUST			SEPTEMBER		
1..	5250	14	198	5050	25	341	7970	22	473
2..	4960	14	187	5050	23	314	6610	18	321
3..	5470	39	576	13900	221	S 18600	6260	14	237
4..	6080	17	279	29000	550	43100	5930	12	192
5..	6370	34	585	21200	170	9730	5250	10	142
6..	5320	43	618	19400	175	9170	4370	8	94
7..	4510	28	341	13700	60	2220	4150	6	67
8..	4580	11	136	11400	50	1540	4550	5	61
9..	4570	9	111	10200	40	1100	4750	5	64
10..	4450	9	108	14000	150	A 5670	4940	4	53
11..	6300	93	S 1730	14700	80	3180	4790	7	91
12..	7080	125	2390	11500	48	1490	4200	5	57
13..	6270	80	1350	9350	37	934	3940	5	53
14..	7810	66	1390	7960	31	666	4040	5	55
15..	7000	50	945	7270	28	550	3890	4	42
16..	6800	45	826	6850	24	444	3850	3	31
17..	5890	38	604	6250	18	304	4430	4	48
18..	4990	29	391	5440	14	206	5260	6	85
19..	4910	25	331	5310	11	158	5040	5	68
20..	4720	18	229	5640	12	183	4700	4	51
21..	4630	12	150	5960	20	322	4650	8	100
22..	6200	15	251	5310	15	215	4680	7	88
23..	5070	42	575	4990	10	135	4440	6	72
24..	4550	42	516	5000	7	95	4510	6	73
25..	6230	44	740	5060	6	82	4570	6	74
26..	6310	53	903	8360	37	835	4480	5	60
27..	5590	54	815	11500	68	S 2250	4130	4	45
28..	4950	53	708	12200	77	2540	3840	4	41
29..	5930	62	993	10700	44	1270	4060	6	66
30..	5920	42	671	11300	45	1370	5100	10	138
31..	5440	31	455	9630	38	988	--	--	--
Total	174150	--	20102	313180	--	110002	143380	--	3042

Total discharge for year (cfs-days).....3426050.0
Total load for year (tons).....463789

S Computed by subdividing day.
A Computed from partly estimated-concentration graph.

1-4646. DELAWARE RIVER AT BRISTOL, PA.-BURLINGTON, N. J. BRIDGE

LOCATION.--Lat 40°04'55", long 74°51'58", at center of river 1,300 feet upstream from bridge on a line from the Pennsylvania bank through channel station -79.2 to Lehigh range light on New Jersey bank. Water-quality recorder (40°05'45", 74°51'10") located at raw-water intake of Bristol Filtration Plant, 1.2 miles upstream.
DRAINAGE AREA.--7,160 square miles.
RECORDS AVAILABLE.--Chemical analyses: August 1949 to September 1967.
Water temperatures: March 1953 to September 1967.
EXTREMES, 1966-67.--Dissolved oxygen: Maximum daily, 13.9 ppm Feb. 2; minimum daily, 0.0 ppm June 23-25.
Water temperatures: Maximum, 85°F July 29; minimum, 33°F Dec. 28.
EXTREMES, 1953-67.--Dissolved oxygen (1962-67): Maximum daily, 14.5 ppm Jan. 27, Feb. 6, 1964 and Mar. 10, 1966; minimum daily, 0.0 ppm on several days in 1963, 1965, and 1967.
Water temperatures: Maximum, 87°F July 9, 1966; minimum, freezing point on many days during winter months.
REMARKS.--Samples collected approximately 3 feet from bottom. Records of discharge are given for Delaware River at Trenton, N. J. Further information on this station is given in U.S. Geological Survey Water-Supply Paper 1809-0.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Lithium (Li)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Phosphate (PO_4)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color	Biochemical oxygen demand	Dissolved oxygen
																			Calcium, magnesium	Noncarbonate						
Oct. 17, 1966	2620	2.7		0.00	0.00	19	6.0	12	2.7		36	0	45	13	0.4	8.4		131	72	43		220	6.3	2	4.2	2.4
Nov. 2.....	2620	4.6		.01	.00	18	6.2	11	3.0		36	0	45	13	.4	8.4		143	71	41		222	6.9	2	2.8	6.4
Dec. 6.....	5400	3.3		.02	.00	14	4.0	7.0	1.5		25	0	28	9.5	.2	5.7		88	52	31		149	6.3	2	4.8	10.6
Dec. 8.....	6030	4.4		.02	.00	15	4.5	8.5	1.7		26	0	31	10	.2	6.3		97	56	35		162	6.3	3	--	--
Jan. 5, 1967.	6750	5.1		.00	.00	18	5.0	7.5	1.9		30	0	35	12	.2	6.8		113	66	41		179	6.8	2	2.9	12.2
Feb. 2.....	14200	4.9		.03	.00	12	3.5	4.5	1.2		18	0	27	7.5	.2	5.5		83	45	30		124	6.4	4	3.3	12.8
Mar. 9.....	14900	5.3		.01	.00	14	4.2	6.6	2.4		21	0	31	10	.2	8.7		94	53	36		152	6.3	13	4.2	12.0
May 4.....	10600	2.2		.00	.00	15	4.7	5.7	1.2		31	0	27	8.0	.2	3.8		98	57	32		144	6.5	4	3.1	9.8
June 8.....	5290	1.5		.00	.00	18	5.5	7.4	1.8		40	0	32	8.5	.2	5.4		108	68	35		175	6.6	5	2.0	5.3
July 13.....	6270	3.6		.00	.00	17	4.9	7.0	1.8		42	0	31	9.0	.0	7.0	0.40	105	63	28		174	6.5	7	2.7	4.4
Aug. 3.....	13900	4.9		.00	.00	19	6.0	9.0	2.6		44	0	33	11	.2	7.0		134	72	36		195	6.7	6	1.8	3.5
Sept. 7.....	4150	5.1		.00	.00	18	6.2	7.0	2.0		49	0	30	9.5	.2	5.8		126	71	31		188	7.3	7	1.6	5.5

1-4646. DELAWARE RIVER AT BRISTOL, PA.-BURLINGTON, N. J. BRIDGE--Continued

Dissolved oxygen, in parts per million, and temperature (°F) of water, water year October 1966 to September 1967

Day	OCTOBER									NOVEMBER								
	Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)			Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1				4.6	3.3	4.0	66	64	65				5.4	3.2	4.8	62	60	61
2				4.5	3.8	4.2	65	64	64				5.3	2.2	4.7	62	61	61
3				4.5	4.1	4.3	65	64	65				5.8	2.8	5.2	63	59	61
4				4.7	4.0	4.3	66	62	64				6.3	5.4	6.1	64	59	61
5				5.5	4.3	4.7	65	64	65				6.7	6.1	6.4	62	59	60
6				5.8	4.9	5.3	64	63	63				6.8	6.2	6.5	62	58	60
7				5.7	4.9	5.3	64	62	63				6.6	6.3	6.4	59	58	--
8				5.9	5.2	5.4	64	62	63				7.2	6.4	6.8	55	55	--
9				5.7	5.1	5.3	65	63	64				7.4	6.8	7.1	55	54	55
10				5.3	4.8	5.1	64	64	64				7.7	6.8	7.3	57	55	56
11				5.2	4.9	5.0	64	63	64				7.5	5.9	6.4	56	56	56
12				5.4	4.9	5.0	64	63	64				--	--	--	--	--	--
13				5.4	4.7	4.9	64	63	64				--	--	--	--	--	--
14				4.9	4.4	4.7	65	63	64				--	--	--	--	--	--
15				4.7	4.3	4.4	65	64	64				7.5	6.9	--	56	55	--
16				4.7	4.1	4.2	65	64	64				7.3	6.7	6.9	55	54	55
17				4.8	4.1	4.3	64	63	64				7.5	6.7	--	55	54	--
18				4.8	4.1	4.3	64	63	64				7.7	6.8	7.2	54	53	54
19				5.2	4.2	4.6	63	62	63				8.5	7.3	7.7	53	52	53
20				6.4	4.9	5.6	64	62	63				8.1	7.4	7.8	52	51	51
21				6.7	5.9	6.3	62	60	61				8.2	7.6	7.9	51	50	51
22				6.3	4.8	5.9	60	58	59				8.1	7.7	7.9	51	50	51
23				5.8	1.1	2.8	60	58	59				7.9	7.5	7.7	51	50	50
24				5.6	1.0	2.5	60	59	59				7.7	7.4	7.5	51	50	50
25				5.7	1.0	4.0	60	59	60				7.8	7.2	7.5	51	50	50
26				5.5	1.8	4.7	61	59	6[illegible]				8.3	7.2	7.6	51	50	50
27				5.8	2.4	4.8	61	59	6[illegible]				8.0	7.3	7.7	51	50	50
28				5.4	2.8	4.7	62	60	61				7.5	7.5	--	50	50	--
29				5.7	2.0	4.5	62	60	61				--	--	--	--	--	--
30				5.8	2.5	4.8	61	59	6[illegible]				--	--	--	--	--	--
31				5.8	2.2	4.9	61	59	6[illegible]									
	DECEMBER									JANUARY								
1				8.9	8.7	--	49	48	--				13.3	12.7	13.1	36	34	35
2				9.2	8.7	9.0	48	46	47				13.4	12.6	13.0	37	35	36
3				10.0	9.3	9.6	46	43	45				13.4	12.5	13.0	37	36	37
4				10.4	9.9	--	45	43	--				12.9	12.6	12.7	38	37	37
5				--	--	--	--	--	--				12.8	12.2	12.6	39	38	38
6				11.2	10.5	--	41	39	--				12.6	12.0	12.3	40	38	39
7				11.7	10.8	11.3	41	39	4[illegible]				12.2	11.9	12.1	40	38	39
8				12.4	11.2	11.9	41	40	40				12.3	11.9	12.1	41	40	40
9				12.4	12.0	12.2	43	41	42				12.4	11.9	12.1	41	39	40
10				12.3	11.7	12.1	46	42	43				12.3	12.0	12.2	40	40	40
11				12.0	11.3	11.6	46	44	45				12.2	11.8	12.0	41	39	40
12				11.4	10.2	10.7	47	45	46				12.1	11.5	11.9	40	40	40
13				10.3	9.9	10.1	47	46	47				12.2	11.6	11.9	42	40	40
14				10.1	9.7	9.9	47	46	47				12.2	11.7	12.0	41	40	41
15				10.3	9.4	10.1	47	45	46				12.2	11.4	12.0	42	41	41
16				10.5	10.0	10.3	45	44	45				12.2	11.1	11.9	43	41	42
17				10.9	10.3	10.6	46	44	44				12.0	11.5	11.7	44	41	42
18				11.1	9.0	10.7	46	44	45				11.7	11.4	--	43	43	--
19				11.6	10.2	11.0	44	40	42				--	--	--	--	--	--
20				11.5	11.1	11.4	40	39	39				--	--	--	--	--	--
21				11.5	11.2	11.4	40	39	39				--	--	--	--	--	--
22				11.7	11.1	11.5	40	39	39				--	--	--	--	--	--
23				11.8	11.5	11.6	39	37	38				13.3	12.4	--	41	40	--
24				12.1	11.5	11.8	38	35	36				13.2	12.6	12.9	42	39	41
25				12.3	11.8	12.1	36	34	35				13.0	12.5	12.8	44	41	42
26				12.5	12.1	12.3	35	34	35				12.7	12.0	12.3	46	42	43
27				12.5	12.1	12.4	35	34	34				12.2	11.4	11.8	44	43	44
28				12.5	12.3	12.4	35	33	34				11.8	11.4	11.6	43	39	42
29				13.0	12.3	12.6	35	34	34				12.2	11.5	11.9	39	37	38
30				13.7	12.8	13.3	36	34	35				13.1	12.0	12.5	38	36	37
31				13.7	13.2	13.5	35	34	34				13.6	12.9	13.2	37	36	36

1-4646. DELAWARE RIVER AT BRISTOL, PA.-BURLINGTON, N. J. BRIDGE--Continued

Dissolved oxygen, in parts per million, and temperature (°F) of water, water year October 1966 to September 1967--Continued

Day	FEBRUARY									MARCH								
	Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)			Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1				13.7	13.4	13.5	37	36	36				12.9	12.4	--	--	--	--
2				13.9	12.7	13.2	38	37	38				12.4	12.0	--	35	35	--
3				13.0	12.5	12.7	38	38	38				13.6	12.5	13.4	39	35	37
4				12.7	12.2	12.5	39	38	38				13.4	12.9	13.2	38	37	37
5				12.6	12.3	12.5	39	38	39				13.5	13.1	13.3	39	38	38
6				12.6	12.1	12.4	39	38	38				13.4	12.9	13.2	40	39	39
7				12.4	12.1	12.3	38	37	37				13.2	12.9	13.0	40	38	40
8				12.6	12.1	12.4	37	36	37				13.5	13.0	13.2	38	37	37
9				12.6	12.2	12.4	37	36	36				13.4	12.7	13.1	38	37	38
10				12.7	12.2	12.5	36	35	36				13.0	12.7	12.9	41	38	39
11				13.1	12.4	12.7	37	36	37				12.7	12.3	12.5	44	40	42
12				--	--	--	--	--	--				12.2	11.2	12.0	46	43	44
13				--	--	--	--	--	--				11.7	11.2	11.6	45	45	45
14				12.1	11.8	--	37	36	--				11.9	11.5	11.8	46	44	45
15				12.3	11.8	12.0	39	36	37				12.0	11.9	11.9	44	43	44
16				12.5	12.0	--	39	38	38				12.2	11.5	11.9	44	42	43
17				--	--	--	39	38	38				12.4	11.7	12.0	42	40	42
18				--	--	--	40	38	39				12.9	12.3	12.6	41	39	40
19				--	--	--	39	39	39				13.4	12.8	13.0	41	39	40
20				12.4	11.9	--	39	38	39				13.7	13.1	13.4	40	39	39
21				12.9	12.4	--	39	38	39				13.6	13.2	13.5	40	39	39
22				12.9	12.2	12.7	39	38	39				13.5	12.9	13.2	40	39	40
23				12.5	11.6	12.2	39	38	39				13.2	12.8	12.9	41	40	41
24				12.1	11.7	--	39	38	--				13.0	12.5	12.8	43	41	42
25				--	--	--	--	--	--				12.8	12.4	12.6	45	42	44
26				--	--	--	--	--	--				12.7	12.0	12.4	46	44	45
27				12.6	12.1	--	--	--	--				12.4	11.6	12.0	47	46	47
28				12.9	12.2	12.5	--	--	--				11.7	11.1	11.5	49	47	48
29													11.4	11.0	11.3	50	48	49
30													11.2	10.9	11.1	50	48	49
31													11.5	11.1	11.3	49	47	48
	APRIL									MAY								
1				11.8	11.1	11.6	49	47	48				--	--	--	59	56	--
2				11.6	11.3	11.5	50	48	49				--	--	--	58	57	--
3				11.4	11.1	11.2	51	48	50				9.3	8.7	--	61	59	--
4				11.0	10.7	10.8	51	50	50				9.0	7.9	8.6	61	59	61
5				11.0	10.6	10.8	51	49	50				8.9	8.2	--	62	59	--
6				10.9	10.3	10.6	50	49	50				--	--	--	--	--	--
7				10.7	10.2	10.5	50	49	49				--	--	--	--	--	--
8				10.6	10.2	10.4	50	49	50				8.2	7.8	--	58	57	--
9				11.0	10.5	10.7	51	49	50				--	--	--	--	--	--
10				11.4	10.7	--	51	50	--				--	--	--	--	--	--
11				11.1	10.6	10.8	51	50	51				--	--	--	--	--	--
12				10.7	10.3	10.6	52	50	51				--	--	--	--	--	--
13				10.7	10.0	10.4	52	50	51				--	--	--	--	--	--
14				10.4	9.8	10.1	52	50	51				--	--	--	--	--	--
15				--	--	--	54	52	52				--	--	--	--	--	--
16				--	--	--	55	52	--				--	--	--	--	--	--
17				10.2	9.8	--	54	53	--				10.1	9.8	--	--	--	--
18				9.8	9.3	--	56	54	55				10.4	9.8	10.1	57	55	--
19				--	--	--	55	54	--				10.5	9.9	10.2	59	56	57
20				10.0	9.8	--	55	54	--				10.1	9.7	9.9	61	58	59
21				--	--	--	--	--	--				9.9	9.4	9.6	62	60	61
22				--	--	--	--	--	--				9.5	8.7	9.1	61	60	61
23				10.2	9.4	10.0	55	54	55				9.4	8.6	8.9	61	60	60
24				10.2	9.7	--	55	53	54				9.6	8.7	9.1	60	58	60
25				10.0	9.5	--	55	54	--				9.4	8.7	9.0	59	58	58
26				--	--	--	--	--	--				9.1	8.7	8.9	58	57	58
27				--	--	--	--	--	--				9.1	8.6	8.8	58	57	57
28				--	--	--	53	52	--				9.4	8.6	9.0	61	57	58
29				--	--	--	--	--	--				9.5	8.8	9.0	60	59	--
30				--	--	--	--	--	--				9.0	8.4	8.7	--	--	--
31													--	--	--	--	--	--

1-4646. DELAWARE RIVER AT BRISTOL, PA.-BURLINGTON, N. J. BRIDGE--Continued

Dissolved oxygen, in parts per million, and temperature (°F) of water, water year October 1966 to September 1967--Continued

Day	JUNE									JULY								
	Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)			Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1				--	--	--	--	--	--				4.2	3.1	3.7	80	79	79
2				8.9	7.5	--	67	65	--				4.3	2.8	3.4	80	78	79
3				8.9	7.6	8.2	67	65	66				4.0	3.4	--	79	78	79
4				9.3	7.6	8.4	71	67	68				--	--	--	79	78	79
5				8.8	7.6	--	71	68	--				--	--	--	78	78	78
6				7.1	6.1	--	74	73	--				--	--	--	79	78	79
7				6.4	4.9	5.8	75	73	74				5.9	4.6	--	79	78	78
8				5.7	4.8	5.2	77	73	75				6.8	4.6	5.7	79	78	78
9				5.1	4.3	4.6	78	75	77				8.2	2.3	5.7	79	79	79
10				4.5	3.9	4.1	79	77	78				7.5	3.3	5.0	82	79	80
11				4.2	3.5	3.7	81	78	79				4.9	3.5	--	80	80	--
12				3.7	3.1	3.3	82	78	81				--	--	--	--	--	--
13				3.6	2.7	3.1	81	80	80				--	--	--	--	--	--
14				3.4	2.3	2.8	81	79	80				4.6	4.0	--	82	80	--
15				3.2	1.8	2.6	80	80	80				4.4	3.1	4.0	82	81	82
16				2.9	1.8	2.5	83	80	81				4.5	3.0	3.9	82	80	81
17				3.1	1.9	2.4	83	81	82				4.4	3.1	--	81	80	81
18				2.5	1.4	2.1	82	81	82				4.1	1.2	--	84	80	81
19				2.8	1.0	2.3	81	80	--				4.7	1.4	3.1	81	80	81
20				3.0	0.9	2.2	--	--	--				4.5	1.6	3.6	81	80	81
21				2.5	0.9	2.0	--	--	--				4.6	1.5	3.2	82	80	81
22				2.3	0.6	1.8	--	--	--				4.8	1.4	3.1	82	81	81
23				2.7	0.0	1.6	--	--	--				4.9	1.5	2.9	82	81	81
24				3.2	0.0	1.2	--	--	--				4.1	1.2	2.3	83	81	82
25				3.6	0.0	1.7	--	--	--				3.9	1.0	2.0	82	81	82
26				4.6	0.2	2.9	82	80	--				3.2	0.8	1.3	83	81	82
27				4.8	1.1	3.7	82	80	81				3.3	0.8	--	83	82	--
28				5.3	1.4	3.6	82	80	81				4.2	3.1	--	84	83	83
29				4.6	1.3	3.2	81	80	80				4.2	2.8	3.4	85	83	83
30				4.3	3.0	3.8	80	79	79				4.4	3.2	3.8	84	82	83
31													4.2	3.4	3.8	83	82	--
	AUGUST									SEPTEMBER								
1				4.0	3.4	3.6	83	82	82				6.3	5.7	5.9	74	73	73
2				4.0	3.4	3.6	83	81	82				6.2	5.6	5.9	74	73	73
3				4.3	3.4	--	82	78	81				6.2	5.6	5.9	73	73	73
4				4.9	4.3	--	80	76	77				6.3	5.7	6.0	74	73	73
5				5.3	4.2	4.7	76	75	75				6.4	5.6	5.9	74	73	73
6				5.6	5.0	5.3	76	75	75				5.9	5.5	5.7	74	73	73
7				5.9	5.3	5.6	76	75	76				5.9	5.2	5.4	75	73	74
8				5.8	5.4	5.5	78	76	77				--	--	--	--	--	--
9				5.8	5.3	5.5	79	77	78				--	--	--	--	--	--
10				6.0	5.5	5.7	79	77	78				--	--	--	--	--	--
11				6.3	5.7	6.0	78	77	78				6.2	5.3	--	74	73	--
12				6.1	5.7	5.9	77	76	77				6.0	5.1	5.4	74	72	73
13				6.2	5.7	5.9	76	75	76				5.6	4.9	--	73	72	--
14				6.1	5.6	5.8	76	74	75				4.9	4.6	--	74	73	--
15				6.0	5.5	5.8	77	74	76				5.2	4.5	4.7	73	73	73
16				6.5	5.5	5.8	77	75	76				5.8	4.7	5.3	73	72	72
17				6.2	5.5	5.7	77	76	77				5.6	5.1	5.4	73	72	72
18				6.3	5.3	5.7	78	76	77				5.7	5.0	5.3	74	72	73
19				6.0	5.0	5.5	79	78	79				5.2	4.9	5.1	74	73	74
20				5.7	5.0	5.3	79	78	79				5.1	4.6	4.8	75	74	74
21				5.4	2.2	4.7	81	79	79				5.3	4.5	4.8	75	74	74
22				5.1	4.1	4.5	81	79	81				5.1	4.3	4.7	75	74	74
23				5.4	4.1	4.6	80	78	79				5.1	4.3	4.7	74	72	73
24				5.2	2.8	4.4	79	77	78				5.1	4.3	4.7	72	71	72
25				5.1	4.0	4.5	78	77	77				5.2	4.5	4.8	72	70	71
26				4.8	4.1	4.5	77	76	77				5.3	4.7	4.9	71	70	71
27				5.3	4.5	--	77	75	--				5.6	4.9	5.1	71	69	70
28				5.7	5.4	--	74	73	--				5.7	5.0	5.3	71	68	70
29				5.5	5.3	5.4	74	72	73				6.0	5.2	5.5	70	68	69
30				5.5	5.0	5.3	74	72	74				6.4	5.2	6.0	70	67	69
31				5.9	5.2	5.5	74	73	74									

1-4657.95. BYBERRY CREEK AT GRANT AVENUE, PHILADELPHIA, PA.

LOCATION.--Lat 40°03'45", long 74°59'47", at gaging station on left bank 120 feet upstream from Grant Avenue bridge, 1,300 feet west of Frankford Avenue, in Philadelphia, Philadelphia County. Sediment samples collected near the gaging station.
DRAINAGE AREA.--7.6 square miles, approximately.
RECORDS AVAILABLE.--Chemical analyses: October 1964 to September 1967 (periodic).
Sediment records: November 1964 to September 1967 (periodic).
REMARKS.--Records of specific conductance, pH, and temperature of sediment samples available in the Water Resources Division office at Harrisburg, Pa. Flow affected by ice Dec. 25-27, Feb. 8-14, and Feb. 26 to Mar. 1. Sodium (Na) and potassium (K) values are calculated and reported as sodium.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
																Calcium, magnesium	Noncarbonate				
Jan. 16, 1967..	4.9							19		30	44	24		20		80	56		282	6.1	2
Apr. 27.....	57							5.8		16	25	5.5		5.5		39	26		116	6.2	160
Sept. 12.....	3.6							14		46	33	26		11		88	51		253	6.7	4

1-4657.95. BYBERRY CREEK AT GRANT AVENUE, PHILADELPHIA, PA.--Continued

Periodic determinations of suspended-sediment discharge and particle-size, water year October 1966 to September 1967
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Oct. 8, 1966	0800	52		2.2	8	T		--	--	--	--	--	--	--				
Oct. 12	1300	59		1.8	6	T		--	--	--	--	--	--	--				
Oct. 16	1050	63		13	35	1.2		--	--	--	--	--	--	--				
Oct. 23	1100	64		3.6	78	.8		--	--	--	--	--	--	--				
Oct. 31	1000	48		2.6	76	.5		--	--	--	--	--	--	--				
Nov. 6	1120	46		4.1	4	T		--	--	--	--	--	--	--				
Nov. 14	1115	45		2.4	10	.1		--	--	--	--	--	--	--				
Nov. 23	1205	45		2.6	4	T		--	--	--	--	--	--	--				
Dec. 1	1015	46		2.4	77	.5		--	--	--	--	--	--	--				
Dec. 3	0915	--		1.8	10	T		--	--	--	--	--	--	--				
Dec. 7	1030	44		2.0	86	.5		--	--	--	--	--	--	--				
Dec. 15	0930	45		4.6	70	.9		--	--	--	--	--	--	--				
Dec. 23	1100	43		3.2	15	.1		--	--	--	--	--	--	--				
Dec. 30	0900	42		14	18	.7		--	--	--	--	--	--	--				
Jan. 6, 1967	1045	--		4.3	17	.2		--	--	--	--	--	--	--				
Jan. 13	1100	40		4.6	17	.2		--	--	--	--	--	--	--				
Jan. 16	1525	--		4.8	9	.1		--	--	--	--	--	--	--				
Jan. 22	1045	40		4.1	2	T		--	--	--	--	--	--	--				
Jan. 31	1200	36		4.6	3	T		--	--	--	--	--	--	--				
Feb. 16	1055	40		45	516	63		--	--	--	--	--	--	--				
Feb. 25	1415	36		4.1	6	.1		--	--	--	--	--	--	--				
Feb. 26	1115	34		3.9	10	.1		--	--	--	--	--	--	--				
Feb. 28	1010	38		5.6	6	.1		--	--	--	--	--	--	--				
Mar. 3	1310	48		4.6	5	.1		--	--	--	--	--	--	--				
Mar. 5	0800	54		6.5	2	T		--	--	--	--	--	--	--				
Mar. 8	0800	40		12	32	1.0		--	--	--	--	--	--	--				
Mar. 8	0900	40		12	24	.8		--	--	--	--	--	--	--				
Mar. 8	1000	42		12	29	.9		--	--	--	--	--	--	--				
Mar. 15	1000	46		34	160	15		--	--	--	--	--	--	--				
Mar. 15	1100	45		31	182	15		--	--	--	--	--	--	--				
Mar. 15	1230	44		28	173	13		--	--	--	--	--	--	--				
Mar. 16	1510	47		19	300	15		--	--	--	--	--	--	--				
Mar. 16	1615	46		19	289	15		--	--	--	--	--	--	--				
Mar. 17	1330	46		10	63	1.7		--	--	--	--	--	--	--				
Mar. 17	1445	46		11	42	1.2		--	--	--	--	--	--	--				
Mar. 20	1330	39		5.9	103	1.6		--	--	--	--	--	--	--				

T Less than 0.05 ton.

1-4657.95. BYBERRY CREEK AT GRANT AVENUE, PHILADELPHIA, PA.--Continued

Periodic determinations of suspended-sediment discharge and particle-size, water year October 1966 to September 1967--Continued
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Mar. 22, 1967	1215	48		24	18	1.2		--	--	--	--	--	--	--				
Mar. 30	1415	60		5.9	5	.1		--	--	--	--	--	--	--				
Apr. 5	0900	48		11	19	.6		--	--	--	--	--	--	--				
Apr. 7	0800	50		36	1010	98		--	--	--	--	--	--	--				
Apr. 12	1215	54		4.8	2	T		--	--	--	--	--	--	--				
Apr. 19	0800	48		5.1	21	.3		--	--	--	--	--	--	--				
Apr. 27	1200	--		78	327	69		--	--	--	--	--	--	--				
Apr. 27	1410	--		65	231	40		--	--	--	--	--	--	--				
May 4	1140	58		4.3	19	.2		--	--	--	--	--	--	--				
May 8	0910	49		13	38	1.3		--	--	--	--	--	--	--				
May 12	1140	56		6.5	20	.4		--	--	--	--	--	--	--				
May 20	1110	56		4.8	3	T		--	--	--	--	--	--	--				
May 29	1100	53		6.2	4	.1		--	--	--	--	--	--	--				
June 6	1100	51		3.4	90	.8		--	--	--	--	--	--	--				
June 12	1050	76		2.2	20	.1		--	--	--	--	--	--	--				
June 14	1030	62		2.2	89	.5		--	--	--	--	--	--	--				
June 21	1030	--		3.6	78	.8		--	--	--	--	--	--	--				
July 7	1200	71		3.0	7	.1		--	--	--	--	--	--	--				
July 14	1100	72		4.1	3	T		--	--	--	--	--	--	--				
July 21	1105	76		3.9	9	.1		--	--	--	--	--	--	--				
Aug. 3	1215	73		846	1560	3560		40	53	70	86	96	99	100				SCPW
Aug. 3	1415	73		530	3050	4360		--	--	--	--	--	--	--				
Aug. 3	1615	73		202	2980	1620		--	--	--	--	--	--	--				
Aug. 3	1815	72		116	3090	968		--	--	--	--	--	--	--				
Aug. 10	0715	73		618	2040	3400		--	--	--	--	--	--	--				
Aug. 10	0830	73		450	1950	2370		--	--	--	--	--	--	--				
Aug. 10	0930	73		354	1990	1900		--	--	--	--	--	--	--				
Aug. 10	1100	73		156	1940	817		--	--	--	--	--	--	--				
Aug. 10	1215	72		52	1900	267		--	--	--	--	--	--	--				
Aug. 17	1000	71		3.9	4	T		--	--	--	--	--	--	--				
Aug. 24	0905	70		3.9	28	.3		--	--	--	--	--	--	--				
Aug. 24	1100	--		3.9	2	T		--	--	--	--	--	--	--				
Aug. 27	1700	72		582	1560	2450		33	44	59	81	93	98	99	100			SCPW
Sept. 6	1000	69		4.8	3	T		--	--	--	--	--	--	--				
Sept. 14	1115	63		3.6	1	T		--	--	--	--	--	--	--				

T Less than 0.05 ton.

1-4670.3. DELAWARE RIVER AT TORRESDALE INTAKE, PHILADELPHIA, PA.

LOCATION (revised).--Lat 40°01'57", long 74°59'46", at center of river on a line from brick building (inactive water intake for Torresdale Filter Plant) on bulkhead line at filter plant through channel station -37.0 to New Jersey bank. Water-quality recorder (40°02'05", 74°59'57") located in inactive intake building.
DRAINAGE AREA.--7,781 square miles.
RECORDS AVAILABLE.--Chemical analyses: August 1949 to September 1967.
Water temperatures: October 1955 to September 1957, November 1960 to September 1967.
EXTREMES, 1966-67.--Specific conductance: Maximum daily, 570 micromhos Mar. 18; minimum daily, 112 micromhos Apr. 5-7.
Dissolved oxygen: Maximum daily, 14.3 ppm Jan. 3; minimum daily, 0.1 ppm June 25 and July 8.
Water temperatures: Maximum, 83°F July 27-29, 31 and Aug. 2; minimum, 33°F on several days in December, February, and March.
EXTREMES, 1955-67.--Specific conductance (1960-67): Maximum daily, 570 micromhos Mar. 18, 1967; minimum daily, 78 micromhos Apr. 28, 1961.
Dissolved oxygen (1961-67): Maximum daily, 14.5 ppm Feb. 4, 5, 1964; minimum daily, 0.0 ppm on many days during 1962 and 1965.
Water temperatures (1955-57, 1960-67): Maximum, 85°F on several days in 1956, 1963 and 1966; minimum, freezing point on many days during winter months.
REMARKS.--Samples collected approximately 3 feet from bottom. Records of discharge are given for Delaware River at Trenton, N. J. Further information on this station is given in U.S. Geological Survey Water-Supply Paper 1809-0.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Lithium (Li)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Phosphate (PO_4)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color	Biochemical oxygen demand	Dissolved oxygen
Oct. 17, 1966	2620													14								217	7.1		3.6	6.0
Nov. 2.....	2620													12								203	7.2		2.6	5.3
Dec. 6.....	5400													10								179	6.9		2.7	7.9
Dec. 8A.....	6030	2.7		0.00	0.00	17	5.5	10	2.5		31	0	35	12	0.4	8.2		110	65	40		190	6.4	2	--	--
Jan. 5, 1967.	6750													15								189	7.1		2.1	10.8
Feb. 2.....	14200													--								--	--		2.5	12.7
Mar. 9.....	14900													--								144	7.0		5.7	11.0
May 4.....	10600													8.5								152	7.0		3.8	11.0
June 8.....	5290													--								--	--		2.7	6.2
July 13.....	6270													--								--	--		2.0	3.1
Aug. 3.....	13900													12								199	7.3		.3	3.4
Sept. 7.....	4150													--								176	7.0		2.0	6.5

A Collected at Gate House right side.

1-4670.3. DELAWARE RIVER AT TORRESDALE INTAKE, PHILADELPHIA, PA.--Continued

Specific conductance (micromhos at 25°C), dissolved oxygen, in parts per million, and temperature (°F) of water, water year October 1966 to September 1967

Day	OCTOBER									NOVEMBER								
	Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)			Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	235	216	226	6.0	3.5	4.4	65	61	64	225	211	216	6.2	3.9	4.9	58	56	57
2	230	213	222	5.5	3.5	4.7	64	62	64	244	214	221	6.1	3.6	4.9	58	56	57
3	223	212	217	6.0	3.9	4.8	65	62	64	254	217	224	7.5	3.5	5.7	58	57	58
4	222	215	219	6.4	4.0	4.9	65	63	64	231	217	221	8.0	6.3	7.0	56	55	55
5	233	214	218	6.6	4.1	4.9	64	63	64	236	217	224	7.8	5.5	7.0	56	53	55
6	225	214	217	6.6	4.5	5.2	64	61	62	233	222	226	8.1	6.4	7.2	55	54	55
7	225	214	219	6.6	4.3	5.3	63	60	62	242	225	230	7.8	5.7	6.8	55	52	54
8	233	217	222	6.7	4.4	5.4	64	61	62	247	231	236	7.2	6.0	6.5	55	53	55
9	239	219	224	6.5	4.1	5.3	64	62	63	257	231	238	7.0	5.8	6.4	55	54	55
10	239	219	224	6.3	3.7	5.2	63	62	63	271	233	240	7.9	5.7	6.6	57	55	56
11	233	219	224	6.4	4.4	5.5	63	61	62	254	231	238	7.1	6.0	6.6	57	56	57
12	233	219	225	6.4	4.1	5.6	62	61	62	262	239	245	7.3	6.2	6.8	58	57	57
13	236	222	228	6.4	4.0	5.5	64	61	63	261	237	244	7.2	5.6	6.5	57	56	57
14	242	222	229	6.6	3.7	5.3	64	63	64	251	232	240	7.4	6.0	6.6	56	54	56
15	239	225	231	6.1	3.8	5.0	64	63	64	247	217	--	7.2	5.8	--	54	53	--
16	250	225	231	6.2	3.7	4.9	65	64	64	242	217	224	7.1	5.7	6.4	54	51	53
17	242	225	232	6.1	3.8	5.0	63	62	63	225	211	219	7.1	5.8	6.5	54	52	53
18	242	225	232	6.2	3.2	4.9	63	61	62	228	208	216	7.1	5.9	6.4	54	53	54
19	244	164	219	7.7	3.9	5.4	62	58	61	236	206	214	7.7	5.9	6.6	54	51	53
20	217	162	208	8.6	5.8	6.3	62	57	61	222	206	212	7.3	5.9	6.7	52	49	52
21	217	211	214	6.9	5.5	6.1	62	59	61	228	206	212	7.3	6.1	6.6	53	49	52
22	217	208	211	7.0	5.6	6.2	62	58	61	225	206	211	7.3	5.8	6.6	52	50	52
23	225	203	210	6.6	5.0	5.9	62	59	61	222	206	212	7.3	5.7	6.5	52	49	51
24	225	200	208	6.4	4.7	5.6	61	58	60	222	208	213	6.4	5.9	--	56	51	53
25	222	200	206	6.2	4.7	5.4	59	58	58	225	208	213	7.9	5.9	--	56	51	54
26	231	200	208	6.1	4.4	5.2	59	56	58	247	208	215	7.4	5.9	6.6	52	50	52
27	228	200	207	5.8	4.3	5.0	59	57	58	236	208	214	7.1	5.9	6.5	52	51	52
28	225	203	214	5.8	3.9	4.8	59	57	58	239	208	219	7.7	5.3	--	54	51	52
29	231	206	211	6.4	3.8	4.8	59	55	58	242	203	216	--	--	--	52	49	51
30	225	206	210	6.2	4.7	5.3	58	55	57	242	198	213	--	--	--	51	49	50
31	219	208	212	6.1	3.5	4.9	58	55	56									
	DECEMBER									JANUARY								
1	222	198	215	8.5	7.7	--	49	47	48	247	200	208	--	--	--	36	34	35
2	222	206	213	8.8	7.9	8.2	48	45	47	268	200	211	--	--	--	37	34	35
3	225	203	211	9.2	8.1	8.5	46	42	45	279	206	216	14.3	12.2	--	37	34	36
4	225	203	210	9.3	8.1	8.6	44	41	43	282	206	216	12.6	11.4	11.8	37	36	36
5	225	200	208	9.5	8.2	8.7	44	41	43	289	203	222	12.1	11.4	11.6	37	36	36
6	239	193	207	9.7	8.4	8.8	44	41	43	244	203	214	12.0	11.3	11.6	36	36	36
7	231	185	202	9.5	8.1	8.7	44	42	44	250	200	211	11.8	11.2	11.5	37	36	36
8	225	183	195	9.4	8.2	8.8	44	42	44	279	203	218	11.4	10.9	11.2	41	37	38
9	214	178	189	9.5	8.6	9.0	45	42	44	232	208	214	11.7	10.9	11.1	39	37	38
10	214	178	188	9.8	8.5	9.2	46	43	44	242	213	218	11.3	10.7	11.0	38	37	38
11	211	178	185	10.0	8.8	9.5	46	44	44	251	208	218	11.5	10.7	11.0	38	37	38
12	222	180	187	10.3	9.3	9.8	44	42	44	260	208	217	11.6	10.8	11.1	38	36	37
13	214	183	188	10.2	9.3	9.7	43	42	42	258	205	215	11.7	10.7	11.0	38	36	38
14	300	188	199	10.5	9.4	9.8	43	40	42	246	206	214	11.4	10.5	10.8	38	37	38
15	259	197	211	11.2	9.7	10.1	46	43	44	318	211	228	10.9	10.4	10.6	41	38	38
16	258	192	205	10.5	9.4	9.7	44	41	43	266	212	224	11.8	10.4	11.1	40	38	38
17	250	192	202	10.3	9.2	9.7	44	42	44	244	215	220	12.3	11.2	11.6	39	37	38
18	232	191	200	10.7	9.4	9.8	45	43	44	247	213	222	12.1	11.3	11.7	38	37	37
19	218	186	194	10.6	9.5	10.0	44	43	43	250	210	218	12.6	11.4	11.7	37	34	36
20	268	180	192	10.6	9.5	9.9	42	39	42	264	207	218	12.8	11.2	11.7	37	35	36
21	444	173	212	10.5	10.0	--	42	38	41	263	205	217	12.4	11.4	11.7	37	34	36
22	391	168	212	11.0	10.0	--	41	39	41	250	208	216	11.9	10.9	11.5	38	36	37
23	275	183	196	11.0	10.0	10.4	41	38	40	244	206	214	11.6	10.8	--	41	38	--
24	236	180	189	11.2	10.3	10.6	40	38	39	239	208	214	11.4	10.8	11.0	42	40	41
25	250	178	188	11.5	10.6	11.0	38	34	38	261	214	223	11.3	10.5	10.8	44	41	42
26	275	180	198	11.7	10.9	11.3	37	35	37	247	217	224	11.2	10.4	10.8	44	41	42
27	261	183	198	11.4	10.1	--	37	34	37	250	214	221	11.7	10.6	11.3	46	42	44
28	244	183	194	--	--	--	37	34	36	225	180	206	11.8	11.1	11.5	45	43	45
29	463	188	244	12.7	11.6	--	39	34	36	193	148	164	12.2	11.4	11.8	44	39	42
30	317	203	226	--	--	--	35	33	34	180	146	155	12.3	11.4	11.8	40	37	39
31	271	200	215	--	--	--	36	33	34	193	140	153	12.3	11.5	11.8	38	36	37

1-4670.3. DELAWARE RIVER AT TORRESDALE INTAKE, PHILADELPHIA, PA.--Continued

Specific conductance (micromhos at 25°C), dissolved oxygen, in parts per million, and temperature (°F) of water, water year October 1966 to September 1967--Continued

Day	FEBRUARY									MARCH								
	Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)			Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	193	138	149	12.0	11.6	11.8	39	37	37	253	204	217	12.5	11.6	11.9	36	34	35
2	219	138	148	12.3	11.6	12.1	41	37	38	265	208	222	12.4	11.2	11.7	36	33	35
3	211	142	154	12.8	12.2	12.5	39	34	38	260	210	222	12.3	11.7	11.9	39	35	36
4	217	146	159	12.7	12.2	12.5	39	37	38	255	217	224	12.0	11.4	11.7	39	36	37
5	228	152	165	12.5	11.9	12.3	39	33	38	263	218	227	11.9	11.3	11.6	38	36	37
6	239	158	167	13.8	11.9	12.2	40	38	39	340	226	243	11.8	11.3	11.5	40	37	37
7	211	158	166	12.4	12.0	12.3	38	34	37	232	173	207	12.5	11.5	11.9	39	36	38
8	239	162	173	12.5	12.0	--	37	36	37	238	169	185	12.5	11.4	11.8	39	37	38
9	268	162	178	11.9	10.3	--	38	36	37	281	165	181	11.8	11.3	11.5	40	37	38
10	250	162	175	10.7	10.2	10.4	39	37	38	230	166	180	11.6	11.1	11.4	41	36	39
11	282	164	180	10.8	10.3	10.5	39	38	38	231	178	193	11.2	10.6	11.0	46	39	41
12	342	183	205	11.1	10.4	10.7	38	36	37	224	147	198	11.2	10.6	11.0	46	41	42
13	257	178	193	13.3	10.5	11.5	36	33	35	264	200	210	11.0	10.6	10.8	46	42	44
14	308	178	199	13.0	11.6	12.1	37	33	35	249	194	207	10.7	10.3	10.6	47	44	45
15	300	185	201	12.7	11.5	11.9	38	34	36	220	178	191	11.1	10.4	10.8	46	43	44
16	296	195	211	--	--	--	41	36	37	230	166	181	11.8	10.8	11.4	45	42	43
17	237	200	210	--	--	--	40	36	37	285	161	182	12.1	11.6	11.8	43	41	41
18	245	203	214	--	--	--	37	35	36	570	159	205	12.5	11.7	12.1	40	38	39
19	343	204	231	--	--	--	37	35	36	236	155	173	13.0	12.1	12.5	40	36	38
20	310	206	222	--	--	--	38	36	37	248	153	165	12.9	11.9	12.4	38	36	37
21	332	208	224	--	--	--	38	37	38	211	156	169	12.3	12.0	12.2	37	37	37
22	268	203	220	--	--	--	38	36	37	320	164	187	12.5	12.0	12.3	39	38	38
23	368	207	226	--	--	--	39	36	38	275	169	189	12.5	11.8	12.4	39	37	38
24	294	207	228	11.8	11.3	--	37	34	37	310	174	192	12.4	11.8	12.1	41	38	39
25	234	199	208	12.2	11.3	11.8	36	34	35	232	179	189	12.1	11.2	11.7	43	39	40
26	247	200	209	12.2	11.2	11.7	36	34	35	240	183	192	11.6	11.0	11.4	45	41	42
27	265	200	212	12.2	11.0	11.6	36	33	35	221	178	187	11.5	11.1	11.3	46	42	43
28	262	204	211	12.5	11.9	12.3	36	34	35	218	128	183	11.3	10.9	11.1	47	43	45
29										226	182	191	11.1	10.5	10.7	48	46	47
30										220	173	191	10.7	10.0	10.4	52	47	48
31										220	146	171	10.7	10.0	10.4	53	48	49

Day	APRIL									MAY								
1	270	125	151	11.1	10.3	10.8	53	47	48	215	165	174	--	--	--	59	53	55
2	172	123	132	--	--	--	53	47	48	200	165	171	--	--	--	59	55	56
3	187	117	128	10.9	10.6	--	52	49	51	210	166	172	--	--	--	59	56	57
4	210	113	125	10.9	10.4	10.7	52	49	50	195	163	169	--	--	--	59	57	58
5	250	112	129	10.8	10.1	10.5	51	49	5	200	162	168	--	--	--	62	58	60
6	190	112	124	10.6	9.8	10.2	51	50	51	186	165	168	--	--	--	61	59	60
7	197	112	127	10.4	9.7	10.1	50	49	49	177	168	170	--	--	--	60	54	59
8	165	120	130	10.1	9.7	--	50	49	49	172	164	169	8.8	7.8	8.2	59	57	59
9	187	127	137	--	--	--	51	49	49	210	153	164	8.9	7.7	8.3	58	55	57
10	230	129	142	--	--	--	52	49	50	210	153	161	9.0	8.0	8.6	56	54	55
11	160	127	133	--	--	--	49	48	49	220	159	167	9.0	8.2	8.6	54	54	54
12	177	128	136	9.5	8.8	--	51	49	49	177	155	161	9.4	8.3	8.9	57	54	54
13	168	134	140	9.9	8.7	9.1	51	49	50	166	152	157	9.2	8.4	8.8	56	54	55
14	210	137	148	10.0	8.9	9.2	53	49	50	195	152	158	9.2	8.6	8.9	56	54	54
15	179	147	--	9.5	8.5	9.0	54	51	52	217	142	161	9.3	8.6	8.9	56	54	54
16	--	--	--	9.5	8.6	9.0	55	52	53	240	138	151	9.2	8.6	8.9	57	54	55
17	228	145	--	9.7	8.6	9.1	54	52	52	208	140	150	9.4	8.6	9.0	--	--	--
18	196	150	161	9.1	8.3	8.8	53	52	52	220	144	155	9.2	8.3	8.7	60	56	--
19	185	155	163	--	--	--	54	51	53	210	145	156	8.8	8.1	8.6	61	57	59
20	180	157	163	9.2	8.4	--	54	52	54	180	137	149	9.0	8.1	8.5	61	59	60
21	195	163	170	9.1	8.2	8.6	55	53	55	170	137	145	8.6	8.0	8.3	60	60	60
22	197	160	170	8.9	8.1	8.6	57	55	55	162	138	144	8.5	7.8	8.1	61	60	60
23	199	156	164	9.3	8.3	8.8	55	53	54	167	140	146	8.6	7.3	8.1	62	60	61
24	180	152	160	9.4	8.1	8.8	54	52	53	153	142	145	8.7	7.2	8.1	61	59	61
25	180	150	158	9.2	8.2	8.6	55	52	54	165	144	149	8.5	7.2	8.0	60	57	59
26	178	150	161	9.0	7.6	8.3	55	53	54	195	148	154	8.1	7.1	7.7	59	58	59
27	202	153	161	8.9	7.3	--	53	49	52	178	151	156	8.5	7.4	7.9	61	58	59
28	173	158	163	9.6	8.4	--	52	50	--	206	155	161	8.1	7.1	7.6	64	60	61
29	193	165	170	9.3	8.1	--	55	53	--	208	157	166	7.9	6.5	7.2	61	60	61
30	202	166	173	9.2	8.6	--	58	53	54	217	160	167	7.7	6.3	7.0	63	59	61
31										180	161	166	7.8	6.6	7.1	64	61	62

1-4670.3. DELAWARE RIVER AT TORRESDALE INTAKE, PHILADELPHIA, PA.--Continued

Specific conductance (micromhos at 25°C), dissolved oxygen, in parts per million, and temperature (°F) of water, water year October 1966 to September 1967--Continued

Day	JUNE									JULY								
	Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)			Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	180	162	167	7.5	6.3	6.9	65	61	63	189	176	185	4.5	2.0	3.0	79	76	78
2	192	163	168	6.9	5.7	6.5	67	64	65	200	174	182	4.5	2.0	3.1	81	79	--
3	200	166	170	6.7	5.3	6.1	68	65	66	183	163	173	4.7	2.2	3.6	78	78	--
4	218	168	173	6.1	5.2	--	69	67	68	178	166	170	4.5	2.4	3.5	79	78	78
5	208	171	177	--	--	--	69	68	--	178	167	170	4.4	2.0	3.5	78	77	78
6	201	175	180	--	--	--	--	--	--	180	168	172	4.0	1.5	3.0	77	77	77
7	223	176	186	--	--	--	71	71	--	185	170	174	4.0	0.9	2.8	77	77	--
8	213	179	187	--	--	--	73	71	72	190	171	177	4.1	0.1	2.5	77	77	--
9	250	182	190	--	--	--	74	71	73	196	171	179	4.1	0.4	2.6	--	--	--
10	218	181	191	--	--	--	75	72	74	184	152	177	4.5	1.4	3.1	80	77	78
11	214	189	194	--	--	--	78	74	75	185	136	172	5.2	1.9	3.3	80	80	--
12	220	192	198	--	--	--	79	75	76	186	176	180	4.3	1.8	3.0	79	79	--
13	230	194	201	--	--	--	77	76	--	193	184	186	3.8	2.4	3.1	--	--	--
14	213	197	203	4.5	2.8	--	77	76	77	201	186	190	3.6	1.4	2.6	80	79	--
15	214	201	205	4.4	1.8	3.2	77	76	77	189	185	188	4.4	2.0	2.7	80	79	--
16	230	205	211	4.4	1.9	3.0	80	76	78	195	187	190	3.8	1.7	2.8	80	80	--
17	231	208	215	4.6	1.5	2.9	80	77	79	197	189	192	3.6	1.6	2.6	81	80	--
18	227	210	215	3.5	0.6	2.4	79	78	79	210	191	194	3.9	2.0	2.6	81	79	80
19	220	214	217	3.3	1.0	2.4	79	77	--	208	187	193	--	--	--	80	79	80
20	223	215	218	3.0	0.6	2.0	76	76	--	202	190	193	--	--	--	80	79	80
21	230	217	221	2.6	0.2	1.5	77	76	77	210	185	194	--	--	--	81	79	80
22	229	205	220	3.4	0.3	2.0	78	77	78	204	187	192	--	--	--	81	80	81
23	221	215	217	2.9	0.4	1.7	79	77	78	200	188	192	--	--	--	82	80	81
24	223	210	217	2.4	0.2	1.1	81	78	79	221	188	199	4.5	2.3	--	82	80	81
25	223	210	215	2.9	0.1	1.2	80	79	79	212	195	202	4.9	1.0	3.2	82	81	81
26	216	198	210	3.2	0.6	1.7	80	78	--	211	197	202	5.0	1.4	3.2	82	81	82
27	219	193	206	3.3	0.2	1.7	80	78	79	218	198	203	5.2	1.8	3.5	83	81	82
28	207	188	199	3.4	0.3	2.0	80	78	79	230	201	205	5.0	2.4	3.5	83	81	82
29	208	184	193	4.1	0.5	2.4	79	78	79	210	201	205	5.4	2.4	3.5	83	80	82
30	205	181	189	4.0	0.8	2.7	79	77	78	204	191	201	5.1	3.1	3.8	82	80	82
31										209	203	205	5.4	2.5	3.7	83	80	82
	AUGUST									SEPTEMBER								
1	212	205	207	4.8	1.8	3.5	82	80	82	202	188	194	5.7	4.1	5.0	74	72	73
2	220	205	208	5.8	1.3	3.5	83	81	82	207	190	195	5.8	3.4	4.9	73	71	72
3	210	190	203	4.5	2.2	3.7	82	80	81	208	192	196	5.9	3.7	5.0	72	71	72
4	200	191	197	5.1	3.4	4.0	81	79	81	207	193	197	6.0	4.3	5.1	73	71	72
5	200	167	184	5.0	3.6	4.2	79	76	78	205	192	197	5.8	4.0	4.8	74	72	73
6	200	171	176	5.0	3.0	4.0	77	76	77	201	193	197	5.6	3.6	4.6	74	73	73
7	198	168	177	5.7	3.0	4.5	77	75	76	206	192	198	5.5	3.2	4.4	76	73	74
8	184	168	174	5.8	3.7	4.8	77	75	76	213	193	201	5.9	3.0	4.2	75	73	74
9	178	167	172	5.7	3.1	4.6	78	76	77	212	195	202	5.7	2.6	4.1	76	73	74
10	189	151	170	7.3	3.5	4.9	77	76	77	219	199	204	5.8	3.2	4.3	75	73	74
11	177	168	174	5.9	4.3	5.0	78	76	77	218	200	206	6.5	2.7	4.7	73	70	72
12	185	168	172	6.2	4.2	5.1	77	76	77	220	204	210	6.6	3.0	4.7	72	69	71
13	188	167	172	6.0	4.0	4.9	77	75	76	221	207	211	6.2	2.9	4.9	72	69	71
14	190	168	175	5.5	3.8	4.7	76	74	75	220	211	214	6.1	3.0	4.8	72	70	72
15	196	170	175	5.5	3.2	4.5	77	75	76	227	215	219	6.2	3.2	4.8	72	71	72
16	190	170	174	5.6	2.9	4.4	78	76	77	232	219	222	6.5	3.6	5.3	71	70	--
17	190	170	174	5.4	2.6	4.1	77	76	76	242	222	227	6.3	4.3	5.5	71	70	71
18	198	171	176	5.6	1.9	4.0	77	77	77	236	227	229	5.7	4.3	--	73	71	--
19	191	171	177	5.3	2.2	4.0	78	77	78	239	230	232	--	--	--	73	72	73
20	188	170	173	5.1	2.0	4.0	78	77	78	252	231	234	--	--	--	73	73	--
21	183	167	--	5.6	2.5	4.1	78	77	--	249	231	239	--	--	--	--	--	--
22	--	--	--	4.7	2.9	3.9	--	--	--	232	204	228	5.6	3.5	--	74	73	--
23	--	--	--	5.4	2.1	3.8	77	77	--	235	231	233	5.2	2.7	4.0	72	71	72
24	205	199	--	5.6	2.8	4.2	76	75	76	237	230	234	5.4	2.7	4.0	71	69	71
25	206	201	205	5.4	3.0	4.4	75	74	75	239	231	235	6.1	3.5	4.6	70	68	70
26	209	205	206	5.1	3.7	4.2	76	74	75	249	233	237	6.4	2.4	4.6	70	68	69
27	228	155	203	5.0	3.5	4.2	77	75	76	243	232	238	6.3	3.5	4.9	70	68	69
28	205	178	194	6.3	4.2	4.8	76	74	75	263	230	240	6.3	2.2	4.8	70	69	69
29	217	197	202	6.2	4.0	4.8	75	73	74	243	191	229	6.9	4.2	5.4	71	69	70
30	233	199	211	6.1	3.8	4.8	75	73	74	232	209	226	6.2	4.9	--	71	68	69
31	217	187	201	5.5	4.2	4.9	75	74	75									

1-4671. DELAWARE RIVER AT LEHIGH AVENUE, PHILADELPHIA, PA.

LOCATION.--Lat 39°58'09", long 75°06'41", at center of river on a line midway between piers 14 and 18 Port Richmond Terminal through channel station +5.0 to a pierhead line on west bank of Petty Island.
DRAINAGE AREA.--7,935 square miles.
RECORDS AVAILABLE.--Chemical analyses: August 1949 to September 1967.
REMARKS.--Samples collected approximately 3 feet from bottom. Records of discharge are given for Delaware River at Trenton, N. J. Further information on this station is given in U.S. Geological Survey Water-Supply Paper 1809-O.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Temperature (°F)	Mean discharge (cfs)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	pH	Biochemical oxygen demand A	Dissolved oxygen A
Oct. 17, 1966.....		2620	23	283	6.9	0.0	1.6
Nov. 2.....		2620	19	245	6.9	4.8	.8
Dec. 6.....		5400	15	218	7.0	4.1	7.2
Jan. 5, 1967.....		6750	17	208	7.0	4.5	11.0
Feb. 2.....		14200	--	--	--	3.4	11.6
Mar. 9.....		14900	15	188	7.1	2.8	9.9
May 4.....		10600	11	177	6.9	2.6	6.2
June 8.....		5290	12	189	6.8	2.0	1.8
July 13.....		6270	--	--	--	1.4	1.4
Aug. 3.....		13900	17	238	7.1	2.4	.8
Sept. 7.....		4150	--	202	7.0	4.2	5.6

A Obtained from surface samples.

1-4672. DELAWARE RIVER AT BENJAMIN FRANKLIN BRIDGE, PHILADELPHIA, PA.

LOCATION.--Lat 39°57'11", long 75°08'05", at center of river on a line 200 feet upstream of bridge from the north side of pier 12 North through channel station +14.3 to pierhead line on New Jersey side of river. Water-quality recorder (39°57'10", 75°08'18") located at river end of pier 11 North about 100 feet downstream from bridge.
DRAINAGE AREA.--7,993 square miles.
RECORDS AVAILABLE.--Chemical analyses: August 1949 to September 1967.
Water temperatures: November 1960 to September 1967.
EXTREMES, 1966-67.--Specific conductance: Maximum daily, 404 micromhos Oct. 1; minimum daily, 90 micromhos Apr. 4, 7, 8.
Dissolved oxygen: Maximum daily, 11.3 ppm Feb. 17; minimum daily, 0.0 ppm on many days.
Water temperatures: Maximum, 85°F Aug. 2; minimum, freezing point on many days during winter months.
EXTREMES, 1960-67.--Specific conductance (1963-67): Maximum daily, 1,450 micromhos Nov. 20, 1964; minimum daily, 90 micromhos on several days in 1965 and 1967.
Dissolved oxygen: Maximum daily, 14.1 ppm Dec. 14, 1962; minimum daily, 0.0 ppm on many days.
Water temperatures: Maximum, 87°F July 13-15, 1966; minimum, freezing point on many days during winter months.
REMARKS.--Samples collected approximately 3 feet from bottom. Records of discharge are given for Delaware River at Trenton, N. J. Further information on this station is given in U.S. Geological Survey Water-Supply Paper 1809-0.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Lithium (Li)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Phosphate (PO_4)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color	Biochemical oxygen demand	Dissolved oxygen
																			Calcium, magnesium	Noncarbonate						
Oct. 17, 1966	2620	3.1		0.00	0.00	18	6.5	20	4.1		28	0	57	22	0.4	12		181	72	49		275	6.2	2	4.8	2.4
Nov. 2.....	2620	3.8		.02	.00	19	6.0	16	4.3		26	0	52	20	.4	11		163	72	51		257	6.1	2	5.1	.6
Dec. 6.....	5400	3.1		.00	.00	18	6.0	11	3.0		31	0	41	17	.4	10		139	70	44		231	6.7	3	3.9	6.3
Dec. 8.....	6030	3.8		.00	.00	19	6.5	18	3.4		28	0	50	20	.4	12		131	74	51		258	6.1	2	0.9	4.9
Jan. 5, 1967.	6750	5.3		.00	.00	17	5.0	14	2.6		24	0	41	18	.3	8.1		133	63	44		212	6.8	2	4.6	10.3
Feb. 2.....	14200	5.1		.01	.00	13	3.0	5.5	1.7		18	0	28	8.5	.0	7.0		98	45	30		134	6.6	4	4.1	11.2
Mar. 9.....	14900	4.0		.00	.00	16	5.5	12	2.0		25	0	41	14	.2	8.9		122	63	42		189	6.9	3	4.5	10.0
Apr. 13.....	14500	6.2		.00	.00	12	3.4	3.8	1.3		20	0	24	7.0	.2	5.1		79	44	28		120	6.8	8	2.1	8.3
May 4.....	10600	4.5		.02	.00	15	5.1	9.2	2.1		24	0	36	12	.1	6.1		120	59	39		180	6.1	5	2.9	7.0
June 8.....	5290	1.5		.01	.00	15	5.3	10	2.1		30	0	34	12	.3	7.5		115	60	35		185	6.3	5	.8	1.7
July 13.....	6270	4.4		.00	.00	15	4.2	10	2.4		32	0	34	12	.0	8.3	0.63	109	55	29		185	6.9	11	1.8	2.7
Aug. 3.....	13900	.9		.00	.00	19	6.5	15	3.2		34	0	48	18	.3	9.7		160	74	46		238	6.3	2	2.2	1.2
Sept. 7.....	4150	5.8		.10	.02	19	6.3	10	3.4		40	0	36	13	.2	7.6		31	74	41		211	6.6	7	.9	4.9

1-4672. DELAWARE RIVER AT BENJAMIN FRANKLIN BRIDGE, PHILDELPHIA, PA.--Continued

Specific conductance (micromhos at 25°C), dissolved oxygen, in parts per million, and temperature (°F) of water, water year October 1966 to September 1967

Day	OCTOBER									NOVEMBER								
	Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)			Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	404	297	353	0.1	0.0	0.1	67	65	66	308	272	294	0.3	0.0	0.0	59	58	59
2	372	280	334	0.5	0.0	0.1	65	64	65	314	279	297	0.0	0.0	0.0	60	58	59
3	356	270	319	0.5	0.0	0.1	65	64	65	318	286	304	0.0	0.0	--	60	58	59
4	343	271	311	0.6	0.0	0.1	66	65	65	302	263	287	--	--	--	58	56	57
5	332	267	302	0.6	0.0	0.2	66	65	65	315	270	294	--	--	--	57	55	56
6	303	240	275	2.0	0.2	0.8	65	64	64	306	272	293	--	--	--	57	55	56
7	320	252	284	1.5	0.1	0.6	64	63	64	322	273	299	4.9	1.0	--	58	54	56
8	317	255	286	1.0	0.0	0.3	64	63	64	322	284	304	2.5	0.5	1.3	58	56	57
9	326	264	292	0.7	0.0	0.2	65	63	64	328	298	314	2.1	0.3	1.1	57	56	57
10	325	273	299	0.4	0.0	0.1	65	64	65	322	295	313	1.9	0.2	--	58	56	57
11	341	277	307	0.7	0.0	0.1	65	64	64	325	295	309	2.8	0.3	1.4	59	58	59
12	341	278	308	0.6	0.0	0.2	64	64	64	331	296	314	2.3	0.7	1.2	59	58	59
13	350	284	317	0.4	0.0	0.1	64	63	64	328	292	310	2.5	0.8	1.5	59	57	58
14	350	292	325	0.2	0.0	0.0	65	64	64	335	296	314	2.7	1.0	1.5	58	57	58
15	360	303	331	0.0	0.0	0.0	65	64	65	328	295	313	2.8	1.0	1.7	57	57	57
16	363	288	330	0.1	0.0	0.0	65	63	64	332	295	314	2.9	0.8	1.6	58	56	57
17	363	290	327	0.3	0.0	0.1	64	64	64	329	295	314	2.9	0.8	1.5	58	56	57
18	370	295	332	0.5	0.0	0.1	64	63	63	335	290	313	3.0	0.5	1.5	58	57	57
19	357	285	322	1.0	0.1	0.3	63	62	63	322	288	307	3.6	1.3	2.1	58	56	56
20	288	227	--	3.2	0.1	--	62	60	--	334	287	312	3.6	1.3	2.1	56	55	55
21	--	--	--	--	--	--	--	--	--	338	297	318	3.5	1.1	1.9	55	54	55
22	264	234	--	4.0	1.6	--	60	60	--	341	300	319	2.7	0.2	1.3	55	54	55
23	282	242	258	3.3	1.1	2.1	60	59	60	340	300	323	1.7	0.1	0.6	55	54	54
24	278	242	258	2.6	0.6	1.6	60	59	60	345	308	328	1.0	0.1	0.4	55	54	54
25	279	250	262	1.6	0.1	0.8	60	59	60	350	310	331	1.0	0.1	0.3	55	54	55
26	278	251	265	0.8	0.0	0.3	61	59	60	352	309	332	0.9	0.0	0.3	55	54	55
27	281	257	270	0.3	0.0	0.1	60	59	60	359	319	341	1.0	0.0	0.3	55	54	55
28	290	258	276	0.1	0.0	0.0	61	59	60	356	321	--	0.8	0.0	--	55	54	--
29	295	263	281	0.2	0.0	0.0	60	59	60	--	--	--	--	--	--	--	--	--
30	291	260	278	0.8	0.0	0.2	59	58	59	--	--	--	--	--	--	--	--	--
31	305	276	289	0.5	0.0	0.2	59	58	59									

Day	DECEMBER									JANUARY								
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1-4672. DELAWARE RIVER AT BENJAMIN FRANKLIN BRIDGE, PHILDELPHIA, PA.--Continued

Specific conductance (micromhos at 25°C), dissolved oxygen, in parts per million, and temperature (°F) of water, water year October 1966 to September 1967--Continued

Day	FEBRUARY									MARCH								
	Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)			Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	--	--	--	--	--	--	--	--	--	245	225	237	9.4	8.4	8.8	37	35	36
2	--	--	--	--	--	--	--	--	--	255	220	243	9.6	8.4	8.7	37	35	36
3	--	--	--	--	--	--	--	--	--	255	235	246	9.1	8.0	8.5	39	36	38
4	--	--	--	--	--	--	--	--	--	260	235	249	8.8	7.8	8.2	38	37	38
5	--	--	--	--	--	--	--	--	--	260	235	250	8.8	7.7	8.1	38	37	38
6	--	--	--	--	--	--	--	--	--	260	240	253	8.6	6.8	7.6	39	37	38
7	--	--	--	--	--	--	--	--	--	260	205	230	8.9	6.8	8.0	39	37	38
8	--	--	--	--	--	--	--	--	--	210	180	196	--	--	--	39	37	38
9	--	--	--	--	--	--	--	--	--	190	170	182	--	--	--	39	37	38
10	180	175	--	10.3	9.7	--	37	36	--	180	160	171	--	--	--	40	38	39
11	200	180	189	10.6	9.6	10.0	37	36	37	170	160	166	--	--	--	41	39	40
12	200	180	191	11.0	9.8	10.3	37	35	36	170	160	167	--	--	--	40	39	40
13	195	180	188	11.0	10.0	10.5	36	35	36	190	165	175	--	--	--	42	40	40
14	200	180	193	11.1	10.2	10.6	37	35	36	195	180	--	--	--	--	43	41	--
15	200	190	198	10.9	9.8	10.3	37	36	37	195	185	--	--	--	--	45	44	--
16	210	195	203	11.1	9.8	10.5	38	37	37	190	170	182	--	--	--	45	43	44
17	205	190	201	11.3	10.1	10.6	37	36	37	180	150	164	--	--	--	44	41	43
18	220	200	213	10.9	9.5	10.1	36	36	36	190	155	169	--	--	--	42	40	41
19	225	215	221	10.5	9.2	9.8	37	36	37	170	155	164	--	--	--	40	39	40
20	225	210	220	10.4	9.1	9.8	37	36	36	160	150	157	--	--	--	40	38	39
21	230	215	225	10.1	8.8	9.4	37	37	37	165	150	159	--	--	--	39	37	38
22	235	215	224	9.8	8.7	9.2	37	37	37	170	155	163	--	--	--	39	37	38
23	235	215	227	9.4	8.4	8.8	38	37	37	185	160	170	--	--	--	38	36	38
24	235	225	232	9.0	8.1	8.4	38	37	38	180	165	173	--	--	--	38	37	38
25	235	215	228	9.5	8.2	--	38	36	37	180	170	172	--	--	--	38	37	38
26	235	210	225	9.7	8.8	9.0	37	35	36	175	170	171	--	--	--	40	38	39
27	250	225	238	9.3	8.6	8.8	37	36	36	175	170	172	--	--	--	41	39	40
28	255	230	244	9.0	8.4	8.7	38	36	37	180	170	176	--	--	--	43	40	41
29										180	170	178	--	--	--	45	42	43
30										180	170	173	--	--	--	47	43	45
31										170	155	165	--	--	--	48	46	47
	APRIL									MAY								
1	160	130	144	8.9	8.6	8.7	48	47	47	160	160	160	7.3	6.5	6.9	54	52	54
2	130	105	117	9.1	8.7	8.9	47	46	46	170	160	165	7.2	6.3	6.7	55	53	55
3	105	100	102	9.0	8.8	8.9	48	46	47	170	160	162	7.1	6.4	6.7	55	54	55
4	105	90	98	8.9	8.5	8.7	49	47	48	170	160	162	7.0	5.9	6.5	56	55	56
5	105	95	99	8.5	8.2	8.4	50	48	49	170	160	168	6.7	5.8	6.3	57	55	56
6	100	95	97	8.3	8.0	8.2	50	49	49	170	160	168	6.7	5.7	6.2	57	56	57
7	105	90	96	8.1	8.0	--	50	49	49	170	160	166	6.6	5.6	6.1	56	55	56
8	100	90	92	--	--	--	49	47	48	190	150	167	6.7	5.8	6.2	56	56	56
9	105	95	98	--	--	--	48	47	48	170	160	--	--	--	--	57	57	--
10	110	95	103	8.3	7.9	--	49	48	48	170	150	160	--	--	--	57	55	56
11	110	105	108	8.2	7.9	8.0	48	48	48	170	150	163	--	--	--	56	54	55
12	115	110	112	8.1	7.7	7.9	48	48	48	160	150	157	6.9	5.8	--	55	53	54
13	125	110	118	8.0	7.5	7.7	49	48	48	160	150	156	6.9	5.5	6.2	54	53	53
14	125	115	122	7.8	7.3	7.6	50	49	49	170	150	154	7.0	5.9	6.5	53	53	53
15	125	120	123	7.8	7.2	7.4	50	50	50	160	150	156	7.0	5.9	6.3	54	53	53
16	130	125	127	7.7	6.9	7.2	51	50	51	170	150	162	6.8	5.8	6.3	54	53	54
17	145	125	132	7.6	6.7	7.0	52	50	51	170	150	163	6.9	5.6	6.2	55	54	54
18	145	135	137	7.4	6.6	7.0	52	51	51	170	160	162	6.6	5.6	6.1	57	54	55
19	140	130	136	7.6	7.0	7.3	51	51	51	170	160	167	6.5	5.2	5.8	59	57	58
20	150	135	143	7.6	6.8	7.2	52	51	52	170	160	165	6.0	4.8	5.4	59	58	59
21	150	145	149	7.4	6.5	7.0	54	52	53	190	160	170	6.1	4.4	5.1	59	59	59
22	150	145	150	7.2	6.4	6.8	54	53	54	170	160	163	5.8	4.3	5.1	60	59	60
23	150	145	149	7.3	6.4	6.8	54	54	54	170	160	160	5.4	4.2	4.7	61	60	60
24	165	150	156	7.2	6.2	6.6	54	53	54	180	160	170	5.2	3.9	4.4	61	60	61
25	165	155	160	7.1	6.5	6.8	54	53	53	180	160	169	5.1	4.0	4.4	61	60	60
26	175	160	168	6.8	6.2	6.5	54	53	53	190	170	176	5.0	4.1	4.4	60	59	60
27	180	150	168	7.0	6.1	6.4	53	52	53	180	170	177	4.8	3.6	4.1	60	59	60
28	170	150	159	7.1	6.2	6.6	53	52	52	180	170	178	4.5	3.3	3.8	61	60	61
29	170	150	160	7.3	6.4	6.8	52	52	52	190	170	180	4.3	2.8	3.4	61	61	61
30	170	155	162	7.3	6.4	6.8	53	52	52	190	180	187	3.9	2.3	3.0	61	61	61
31										200	190	192	3.8	2.0	2.8	62	61	62

1-4672. DELAWARE RIVER AT BENJAMIN FRANKLIN BRIDGE, PHILDELPHIA, PA.--Continued

Specific conductance (micromhos at 25°C), dissolved oxygen, in parts per million, and temperature (°F) of water, water year October 1966 to September 1967--Continued

Day	JUNE									JULY								
	Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)			Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	200	190	197	3.3	1.7	2.5	63	62	63	280	250	273	0.0	0.0	0.0	80	79	79
2	250	190	228	3.1	1.5	2.3	64	63	64	280	250	270	0.0	0.0	0.0	80	79	80
3	250	240	248	2.4	0.5	1.5	65	64	65	280	230	259	0.2	0.0	0.0	80	79	80
4	260	250	--	2.4	0.5	1.0	67	65	66	280	230	253	0.2	0.0	0.1	80	79	80
5	270	250	257	2.1	0.6	1.2	68	66	67	270	210	241	0.5	0.0	0.2	80	79	79
6	270	250	260	1.6	0.5	0.8	69	67	68	260	210	238	0.3	0.0	0.1	79	78	79
7	270	260	267	1.3	0.5	--	71	69	70	270	220	242	0.1	0.0	0.0	79	78	79
8	280	270	273	1.0	0.7	0.7	72	70	71	270	230	247	0.2	0.0	0.0	79	78	79
9	290	270	280	0.7	0.7	0.7	73	71	72	270	230	248	0.3	0.0	0.1	80	79	79
10	290	280	286	0.7	0.7	0.7	73	72	73	270	220	250	0.2	0.0	0.0	80	79	80
11	300	280	288	0.7	0.7	0.7	74	73	74	230	200	--	0.1	0.1	--	81	80	--
12	300	280	295	0.7	0.7	--	76	74	75	250	200	230	0.2	0.1	0.1	81	80	81
13	310	280	299	--	--	--	77	75	76	250	220	238	0.2	0.0	0.1	81	81	81
14	320	260	--	0.0	0.0	--	77	76	76	250	220	235	0.3	0.1	0.1	81	81	81
15	270	250	265	0.1	0.0	0.1	77	76	76	240	210	228	0.6	0.0	0.1	81	80	81
16	280	260	271	0.0	0.0	0.0	78	77	77	230	210	223	0.6	0.0	0.3	81	80	81
17	290	270	276	0.0	0.0	0.0	79	78	78	240	210	223	0.5	0.0	0.3	81	80	81
18	290	270	283	0.0	0.0	0.0	79	78	79	240	220	229	0.3	0.0	0.1	82	81	81
19	290	240	267	0.0	0.0	0.0	79	78	78	240	220	230	0.4	0.0	0.1	82	81	82
20	290	240	269	0.1	0.0	0.0	78	77	78	240	230	235	0.1	0.0	0.0	82	81	82
21	300	260	279	0.1	0.0	0.0	78	77	78	250	230	241	0.2	0.0	0.0	83	81	82
22	290	260	278	0.1	0.0	0.0	79	78	79	250	230	241	0.1	0.0	0.0	82	82	82
23	290	260	275	0.0	0.0	0.0	80	79	79	250	230	240	0.1	0.0	0.0	83	82	82
24	290	260	278	0.0	0.0	0.0	80	79	80	250	230	240	0.2	0.0	0.1	83	82	82
25	290	260	278	0.0	0.0	0.0	81	80	80	250	230	240	0.6	0.1	0.3	83	82	83
26	300	250	273	0.0	0.0	0.0	81	80	80	250	230	241	0.7	0.1	0.4	84	83	83
27	290	260	277	0.1	0.0	0.0	80	80	80	250	230	246	0.5	0.0	0.2	84	83	84
28	290	260	275	0.0	0.0	0.0	80	80	80	260	230	247	0.4	0.0	0.1	84	83	84
29	290	260	276	0.0	0.0	0.0	80	80	80	260	230	247	0.6	0.0	0.2	84	83	84
30	290	260	280	0.0	0.0	0.0	80	79	79	260	230	245	0.5	0.0	0.2	84	83	83
31										260	220	238	1.1	0.0	0.3	84	82	83
	AUGUST									SEPTEMBER								
1	250	220	235	0.8	0.0	0.4	84	82	84	230	220	225	2.0	0.3	0.9	78	76	77
2	240	220	--	0.7	0.0	0.3	85	83	84	240	220	230	1.6	0.2	0.9	77	75	76
3	--	--	--	0.4	0.0	0.2	84	83	84	240	220	229	1.1	0.2	0.5	76	74	75
4	--	--	--	2.3	0.0	0.9	84	81	83	240	220	229	1.1	0.2	0.5	75	74	75
5	--	--	--	2.5	0.9	1.5	82	81	81	240	230	235	0.7	0.1	0.3	76	75	75
6	--	--	--	2.6	1.0	1.8	81	78	80	240	210	230	1.1	0.1	0.3	76	75	76
7	--	--	--	2.2	1.1	1.5	80	78	79	230	210	225	0.5	0.1	0.2	77	76	76
8	--	--	--	1.5	0.3	0.7	80	78	79	240	220	231	0.2	0.1	0.1	77	76	77
9	--	--	--	1.1	0.0	0.2	80	78	79	240	230	236	0.1	0.1	0.1	77	77	77
10	--	--	--	1.0	0.0	0.3	79	78	79	250	220	237	0.2	0.1	0.1	77	75	76
11	--	--	--	1.9	0.1	0.9	79	78	78	250	220	236	1.0	0.3	0.6	75	75	75
12	--	--	--	1.7	0.3	0.9	78	77	78	250	230	--	0.5	0.2	--	75	74	--
13	--	--	--	1.6	0.5	0.9	77	77	77	--	--	--	--	--	--	--	--	--
14	--	--	--	1.3	0.5	--	77	76	--	--	--	--	--	--	--	--	--	--
15	--	--	--	--	--	--	--	--	--	270	240	--	0.5	0.0	--	75	74	--
16	--	--	--	--	--	--	--	--	--	270	250	263	1.2	0.3	0.6	74	74	74
17	--	--	--	--	--	--	--	--	--	280	250	265	1.2	0.3	0.6	74	73	74
18	--	--	--	--	--	--	--	--	--	280	260	270	0.8	0.1	0.4	75	74	74
19	--	--	--	--	--	--	--	--	--	290	260	274	0.4	0.0	0.1	75	74	75
20	--	--	--	--	--	--	--	--	--	290	270	279	0.1	0.0	--	76	75	75
21	--	--	--	--	--	--	--	--	--	340	290	318	--	--	--	77	75	76
22	--	--	--	--	--	--	--	--	--	320	270	295	0.1	0.0	--	76	75	76
23	--	--	--	--	--	--	--	--	--	320	270	300	0.2	0.0	0.0	75	74	75
24	--	--	--	0.3	0.2	--	78	77	--	310	260	292	0.3	0.0	0.0	74	73	73
25	--	--	--	0.5	0.2	0.2	78	77	77	310	210	269	0.8	0.0	0.3	74	72	73
26	--	--	--	0.4	0.2	0.2	78	77	77	250	180	213	0.8	0.0	0.3	72	72	72
27	--	--	--	0.6	0.2	0.3	77	77	77	300	250	275	0.7	0.0	0.1	73	72	72
28	--	--	--	2.2	0.6	1.2	77	76	77	330	290	312	0.5	0.0	0.2	74	72	73
29	220	210	--	2.0	0.5	1.3	78	76	77	--	--	--	0.5	0.0	--	74	73	73
30	220	220	220	2.0	0.2	1.0	78	78	78	--	--	--	0.8	0.0	0.1	73	72	73
31	230	220	225	1.7	0.2	0.7	78	77	78									

1-4673. DELAWARE RIVER AT WHARTON STREET, PHILADELPHIA, PA.

LOCATION (revised).--Lat 39°55'54", long 75°08'11", at center of river on a line between piers 53 and 55 South, Philadelphia, through channel station +22.6 to coal pier on New Jersey side of river.
DRAINAGE AREA.--7,998 square miles.
RECORDS AVAILABLE.--Chemical analyses: August 1949 to September 1967.
REMARKS.--Samples collected approximately 3 feet from bottom. Records of discharge are given for Delaware River at Trenton, N. J. Further information on this station is given in U.S. Geological Survey Water-Supply Paper 1809-O.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Temperature (°F)	Mean discharge (cfs)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	pH	Biochemical oxygen demand A	Dissolved oxygen A
Oct. 17, 1966	62	2620	24	290	6.9	1.5	0.5
Nov. 2	60	2620	20	258	6.8	7.2	.5
Dec. 6	46	5400	21	250	7.0	4.3	5.7
Jan. 5, 1967	37	6750	21	234	6.8	6.2	9.1
Feb. 2	39	14200	--	--	--	4.1	10.7
Mar. 9	39	14900	16	200	6.9	4.2	9.7
Apr. 13	50	14500	6.0	122	7.2	2.4	7.9
May 4	57	10600	12	193	6.9	4.5	5.7
June 8	71	5290	13	203	6.7	2.8	1.5
July 13	--	6270	--	--	--	1.8	.5
Aug. 3	82	13900	18	255	6.9	5.0	2.1
Sept. 7	75	4150	--	210	7.0	2.5	4.8

A Obtained from surface samples.

1-4674. DELAWARE RIVER AT LEAGUE ISLAND, PHILADELPHIA, PA.

LOCATION (revised).--Lat 39°52'56", long 75°10'43", at center of river on a line from north side of naval yard pier 4 through channel station +51.3 to a covered wharf at Red Bank, New Jersey (below ferry slip).
DRAINAGE AREA.--8,072 square miles.
RECORDS AVAILABLE.--Chemical analyses: August 1949 to September 1967.
REMARKS.--Samples collected approximately 3 feet from bottom. Records of discharge are given for Delaware River at Trenton, N. J. Further information on this station is given in U.S. Geological Survey Water-Supply Paper 1809-O.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Temperature (°F)	Mean discharge (cfs)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	pH	Biochemical oxygen demand A	Dissolved oxygen A
Oct. 17, 1966	63	2620	34	352	6.6	4.0	1.0
Nov. 2	60	2620	23	288	6.6	4.0	.2
Dec. 6	47	5400	23	291	6.8	3.6	3.1
Jan. 5, 1967	38	6750	26	275	6.7	5.5	7.7
Feb. 2	40	14200	--	--	--	4.3	9.4
Mar. 9	40	14900	16	214	6.9	5.0	10.0
Apr. 13	50	14500	8.0	137	7.0	3.5	7.5
May 4	58	10600	14	213	6.9	3.4	5.2
June 8	70	5290	14	217	6.7	1.4	.8
July 13	80	6270	--	--	--	2.0	.5
Aug. 3	83	13900	21	278	7.0	6.4	1.8
Sept. 7	74	4150	--	232	6.8	2.4	3.3

A Obtained from surface samples.

1-4705. SCHUYLKILL RIVER AT BERNE, PA.

LOCATION.--Lat 40°31'20", long 75°59'55", at highway bridge 50 feet downstream from gaging station at Berne, Berks County, 0.5 mile upstream from Mill Creek, and 6.5 miles downstream from Little Schuylkill River.
DRAINAGE AREA.--355 square miles.
RECORDS AVAILABLE.--Chemical analyses: December 1947 to February 1953, October 1956 to September 1967.
Water temperatures: February 1948 to September 1953, December 1956 to September 1967.
Sediment records: October 1947 to September 1967.
EXTREMES, 1966-67.--Specific conductance: Maximum daily, 750 micromhos Oct. 1; minimum daily, 195 micromhos Mar. 13.
Water temperatures: Maximum, 83°F June 12; minimum, freezing point on Dec. 3.
Sediment concentrations: Maximum daily, 110 ppm Nov. 29; minimum daily, 1 ppm on many days.
Sediment loads: Maximum daily, 550 tons Nov. 29; minimum daily, less than 0.5 ton on many days during August and September.
EXTREMES, 1947-67.--Dissolved solids (1947-53, 1956-59): Maximum, 755 ppm Sept. 11-20, 1948; minimum, 164 ppm May 5-10, 1948.
Hardness (1947-53, 1956-59): Maximum, 501 ppm Sept. 11-20, 1948; minimum, 93 ppm Mar. 21-31, 1950.
Specific conductance: Maximum daily, 1,410 micromhos Oct. 28, 1961 and Oct. 25, 26, 28, 1964; minimum daily, 130 micromhos Apr. 1, 1960 and Feb. 26, 1961.
Water temperatures (1948-53, 1956-67): Maximum, 92°F July 3, 1966; minimum, freezing point on many days during winter months.
Sediment concentrations: Maximum daily, 8,030 ppm Nov. 4, 1947; minimum daily, 0 ppm on many days during 1952.
Sediment loads: Maximum daily, 90,180 tons Nov. 12, 1947; minimum daily, 0 tons on many days during 1952.
REMARKS.--Flow affected by ice Jan. 11-14, 19-22, Jan. 31 to Feb. 16, Feb. 18 to Mar. 5. Where no potassium (K) is reported, sodium (Na) and potassium (K) are calculated and reported as sodium (Na).

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 1-10, 1966	226	9.1	1.7	0.00	4.4	66	42	18	4.1	0	380	14	0.2	6.3	586	337	337		786	4.5	1
Nov. 1-10.....	172	--		--	--	--	--	24	--	2	343	14	--	4.6	--	330	329		765	4.9	5
Dec. 1-10.....	400	--		--	--	--	--	10	--	2	171	9.0	--	5.3	--	174	173		406	4.8	3
Jan. 1-10, 1967	397	--		--	--	--	--	14	--	2	191	12	--	5.2	--	190	189		456	4.9	4
Feb. 1-10.....	546	--		--	--	--	--	12	--	2	123	12	--	4.9	--	125	124		329	4.8	5
Mar. 1-10.....	1210	--		--	--	--	--	15	--	2	143	14	--	4.9	--	142	141		365	4.8	1
Apr. 1-10.....	975	--		--	--	--	--	12	--	3	136	7.0	--	2.4	--	130	128		330	4.7	5
May 1-10.....	1200	--		--	--	--	--	9.7	--	1	122	8.0	--	9.5	--	126	125		304	4.8	2
June 1-10.....	403	--		--	--	--	--	14	--	1	233	8.0	--	2.0	--	226	225		538	4.6	2
July 11-20.....	298	--		--	--	--	--	15	--	1	259	10	--	3.4	--	254	253		578	4.7	2
Aug. 1-10.....	456	--		--	--	--	--	12	--	2	213	10	--	4.9	--	214	213		499	5.2	6
Aug. 30.....	396	7.1		.00	.20	30	15	10	2.1	3	132	8.5	.1	4.5	232	137	134		349	5.4	3
Sept. 1-10.....	222	--		--	--	--	--	12	--	2	209	10	--	6.0	--	212	211		499	4.9	4

1-4705. SCHUYLKILL RIVER AT BERNE, PA.--Continued

Specific conductance (micromhos at 25°C), water year October 1966 to September 1967

Day	October	November	December	January	February	March	April	May	June	July	August	September
1.....	750	673	331	460	265	435	281	385		--	641	375
2.....	698	700	360	481	260	456	280	350		--	640	398
3.....	673	713	379	500	310	471	330	320		--	580	400
4.....	714	658	390	490	322	511	312	321		--	510	515
5.....	747	651	430	460	335	470	315	305		--	470	578
6.....	710	640	450	454	320	460	320	309		--	451	572
7.....	706	619	439	455	359	215	318	310		--	500	510
8.....	738	610	441	453	359	200	321	272		--	522	528
9.....	730	649	461	442	350	210	352	210		--	430	500
10.....	721	651	470	415	351	230	395	220		--	295	487
11.....	725	623	480	370	342	215	360	238		610	279	532
12.....	730	592	495	388	358	205	381	252		558	285	613
13.....	683	590	480	391	369	195	361	225		540	350	594
14.....	681	582	501	409	365	210	385	265		560	421	574
15.....	700	572	529	400	361	251	388	325		561	471	544
16.....	710	610	491	439	381	260	401	283		580	469	530
17.....	701	605	501	431	390	259	463	299		591	440	510
18.....	703	601	490	375	399	272	475	309		633	435	516
19.....	655	618	508	378	392	288	411	335		630	438	521
20.....	708	612	555	390	410	340	420	349		654	448	635
21.....	657	602	550	399	412	296	418	360		665	495	632
22.....	634	583	529	401	382	300	415	420		659	619	600
23.....	629	593	502	461	381	342	440	390		662	641	570
24.....	633	652	512	460	408	388	499	398		697	602	560
25.....	636	609	520	371	430	372	478	393		690	475	559
26.....	666	588	511	340	470	378	443	--		663	451	620
27.....	715	617	500	280	450	320	408	--		645	451	600
28.....	695	592	511	292	470	302	371	--		581	445	690
29.....	695	488	470	288	--	278	359	--		605	479	602
30.....	697	285	442	275	--	265	335	--		582	352	609
31.....	690	--	462	272	--	271	--	--		601	337	--
Average	694	605	473	400	371	311	381	313		--	465	549

1-4705. SCHUYLKILL RIVER AT BERNE, PA.--Continued

Daily pH, water year October 1966 to September 1967

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	4.7	5.0	5.4	5.0	5.2	4.8	5.0	5.0	4.4	4.9	4.9	5.1
2.....	4.6	5.0	5.5	5.0	5.1	4.9	5.0	5.1	4.5	4.9	4.9	5.4
3.....	4.6	4.9	5.1	5.0	5.2	5.0	4.8	5.2	4.5	4.9	5.0	5.2
4.....	4.5	5.2	5.1	5.0	5.1	4.8	4.9	5.3	4.7	5.0	5.0	4.7
5.....	4.5	5.2	4.9	5.1	5.2	4.8	4.9	5.3	4.5	5.1	5.1	4.6
6.....	4.6	5.1	4.9	5.0	5.0	4.8	5.0	5.2	4.5	5.1	6.1	4.6
7.....	4.6	5.3	4.9	5.0	5.1	5.4	5.0	5.3	4.5	5.0	5.4	4.7
8.....	4.5	5.3	4.9	5.1	5.1	6.1	5.0	5.2	4.6	5.0	5.2	4.8
9.....	4.5	5.2	4.9	5.1	5.1	5.2	4.9	5.6	4.7	4.9	5.4	4.8
10.....	4.5	5.4	4.9	5.4	4.8	6.2	4.8	5.5	4.7	4.8	5.7	4.8
11.....	4.5	5.2	4.8	5.5	5.0	5.9	5.0	5.5	4.7	4.8	6.1	4.9
12.....	4.5	5.2	4.9	5.5	5.0	5.7	4.8	5.4	4.6	5.2	6.2	4.8
13.....	4.4	5.2	4.9	5.5	5.1	5.3	5.0	5.6	4.5	5.1	6.1	4.7
14.....	4.4	5.2	4.8	5.5	5.1	5.2	5.0	5.2	4.5	5.1	5.3	4.7
15.....	4.5	5.2	4.9	5.3	5.1	4.9	5.0	5.2	4.7	5.1	5.0	4.8
16.....	4.5	5.1	4.9	5.2	5.2	4.9	5.0	5.4	4.7	5.0	5.0	4.8
17.....	4.6	5.1	4.8	5.2	5.3	5.0	5.0	5.3	4.7	4.9	5.1	4.1
18.....	4.6	5.1	4.9	5.3	5.3	4.9	5.0	5.3	4.7	4.8	5.1	4.1
19.....	4.8	5.2	4.9	5.3	5.3	4.8	5.0	5.1	4.7	4.9	5.1	4.6
20.....	4.6	5.2	4.9	5.3	5.4	4.7	5.0	5.1	4.8	5.0	5.1	4.7
21.....	4.9	5.1	4.9	5.3	5.4	4.7	5.0	5.0	4.8	4.9	5.0	4.7
22.....	4.9	5.1	5.0	5.3	5.2	4.9	5.1	4.9	4.8	4.9	4.8	4.7
23.....	4.8	5.2	5.0	5.1	5.2	4.7	5.1	5.0	4.8	4.9	4.8	4.9
24.....	4.9	5.1	5.0	5.2	5.2	4.7	4.9	5.1	4.8	4.9	4.9	4.9
25.....	5.0	5.0	5.0	5.4	5.2	4.8	4.9	5.0	4.8	4.9	5.1	4.8
26.....	5.0	5.0	5.0	5.5	5.0	4.8	5.0	4.8	4.8	4.9	6.1	4.7
27.....	4.9	5.1	5.0	5.8	5.0	4.9	5.2	4.7	4.5	5.0	6.1	4.8
28.....	4.9	5.3	4.9	5.8	5.0	5.0	5.2	4.7	4.7	5.2	6.1	4.8
29.....	4.9	5.0	5.0	5.5	--	5.2	5.2	4.6	4.8	5.1	6.4	4.8
30.....	5.0	5.2	5.2	5.4	--	5.1	5.2	4.8	4.9	5.1	5.9	4.9
31.....	5.0	--	5.0	6.0	--	5.1	--	4.7	--	5.0	5.1	--

MAXIMUM VALUE = 6.40 MINIMUM VALUE = 4.10

Temperature (°F) of water, water year October 1966 to September 1967

MONTH	DAY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER..	56	58	56	64	55	56	60	59	55	62	60	59	60	58	60	59	54	54	52	54	56	56	56	53	56	56	56	55	53	50	52	56
NOVEMBER.	51	54	52	47	49	45	46	47	52	54	53	52	48	46	48	46	54	48	46	46	42	48	42	44	49	--	46	49	44	40	--	47
DECEMBER.	45	40	32	33	36	38	40	40	45	47	48	44	36	37	42	42	40	43	36	34	36	37	33	34	33	37	33	33	33	36	33	37
JANUARY..	36	39	37	40	37	38	37	38	36	37	36	36	37	39	43	38	38	36	34	36	35	33	42	46	46	46	43	39	37	36	33	38
FEBRUARY.	36	41	38	35	37	38	33	35	35	36	37	34	33	35	40	38	34	35	38	37	38	38	38	37	33	35	36	38	--	--	--	36
MARCH....	34	39	44	39	36	38	36	40	42	44	46	43	44	48	44	42	38	38	37	40	39	40	40	42	42	39	49	46	41	50	51	41
APRIL....	52	56	55	40	40	52	50	53	51	53	48	50	50	52	56	60	48	50	50	52	50	56	56	51	50	50	49	52	52	56	--	51
MAY.....	50	60	57	56	58	54	48	51	50	52	51	52	54	54	52	54	55	56	60	60	57	58	59	58	55	--	--	--	--	--	--	54
JUNE.....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
JULY.....	--	--	--	--	--	--	--	--	--	--	76	81	82	80	77	70	80	76	73	82	80	80	79	80	79	82	82	74	76	71	78	--
AUGUST...	81	80	79	79	74	--	76	74	73	70	70	71	66	76	70	73	78	80	79	73	70	70	72	68	66	68	68	70	68	71	70	72
SEPTEMBER	67	62	62	67	73	72	76	76	72	68	68	65	70	72	70	71	74	76	77	74	70	68	64	60	62	64	68	65	70	62	--	68

1-4705. SCHUYLKILL RIVER AT BERNE, PA.--Continued

Suspended sediment, water year October 1966 to September 1967

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	296	11	9	117	4	1	690	4	7
2	505	17	23	118	11 A	4	558	2	3
3	294	4	3	279	11	8	455	2	2
4	222	C 3	2	256	C 5	3	382	C 3	3
5	195	C 3	2	179	C 5	2	354	C 3	3
6	169	C 3	1	169	C 5	2	340	C 3	3
7	154	C 3	1	142	C 5	2	327	C 3	3
8	148	C 3	1	142	C 5	2	320	C 3	2
9	144	C 3	1	153	5	2	294	C 3	2
10	136	C 3	1	165	5	2	275	C 3	2
11	132	C 3	1	265	7	5	347	C 3	3
12	134	C 3	1	246	6	4	288	C 3	2
13	125	C 3	1	207	5	3	269	C 3	2
14	124	C 3	1	173	C 4	2	288	C 3	2
15	126	C 3	1	172	C 4	2	275	C 3	2
16	146	C 3	1	167	C 4	2	251	C 3	2
17	135	6	2	167	C 4	2	239	C 3	2
18	125	6	2	177	C 4	2	257	C 3	2
19	180	7	3	173	5	2	263	C 4	3
20	300	C 4	3	154	C 4	2	275	C 4	3
21	184	C 4	2	142	C 4	2	301	C 4	3
22	155	C 4	2	144	C 4	2	275	C 4	3
23	147	C 4	2	136	5	2	263	C 4	3
24	128	C 4	1	147	6	2	282	5	4
25	132	C 3	1	139	6	2	320	7	6
26	129	C 3	1	181	7	3	282	5	4
27	130	C 3	1	186	6	3	259	4	3
28	126	C 3	1	332	26 S	45	245	4	3
29	127	C 3	1	1620	110 S	550	440	4	5
30	112	C 4	1	963	7	18	558	6	9
31	106	C 4	1	--	--	--	410	3	3
TOTAL	5266	--	74	7611	--	683	10382	--	99

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	396	3	3	700	2	4	270	6	4
2	354	2	2	620	1	2	260	6	4
3	340	2	2	700	3	6	280	4	3
4	334	C 1	1	620	3	5	320	3	2
5	334	C 1	1	560	2	3	390	4	4
6	308	C 1	1	500	1	1	1860	58 S	390
7	361	2	2	460	6	7	3050	50	410
8	470	3	4	420	4	4	2200	15	89
9	542	C 4	6	440	2	2	1730	9	42
10	534	C 4	6	440	1	1	1740	16	75
11	500	C 4	5	420	2	2	2250	24	140
12	450	C 4	5	380	3	3	2740	35	260
13	420	C 4	4	330	2	2	2530	15	100
14	410	C 5	6	360	3	3	2250	10	61
15	432	C 5	6	400	5 A	5	2310	13	81
16	418	C 5	6	440	2	2	2350	12	76
17	389	C 5	5	448	1	1	2100	C 3	17
18	368	C 5	5	430	1	1	1780	C 3	14
19	330	4	4	390	5	5	1470	C 3	12
20	300	4	3	390	C 4	4	1300	C 5	18
21	320	6	5	390	C 4	4	1220	C 5	16
22	320	4	3	380	C 4	4	1150	C 3	9
23	354	2	2	360	C 4	4	1070	C 3	9
24	448	2	2	340	C 4	4	986	C 3	8
25	644	6	10	280	C 4	3	1010	4	11
26	766	5	12	270	4	3	1100	5	15
27	975	14 S	46	260	4	3	1190	3	10
28	1780	34	160	270	3	2	1230	3	10
29	1420	10	38	--	--	--	1460	5	20
30	1100	7	21	--	--	--	1400	C 3	11
31	840	6	14	--	--	--	1310	C 3	11
TOTAL	16957	--	390	11998	--	90	46306	--	1932

S Computed by subdividing day.
A Computed from partly estimated-concentration graph.
C Composite period.

1-4705. SCHUYLKILL RIVER AT BERNE, PA.--Continued

Suspended sediment, water year October 1966 to September 1967--Continued

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	1240	C 2	7	718	1	2	509	3	4
2	1160	C 2	6	681	1	2	478	3	4
3	1090	C 3	9	1050	3	8	440	4	5
4	963	C 3	8	888	3	7	432	2	2
5	931	C 3	8	846	2	4	403	1	1
6	941	C 3	8	952	6	15	375	1	1
7	1020	C 3	8	1430	28 S	120	361	3	3
8	867	C 2	5	2030	21	120	354	2	2
9	796	C 2	4	1820	7	34	340	3	3
10	746	C 1	2	1540	6	25	334	3	3
11	700	C 1	2	1600	16 S	75	334	3	3
12	618	C 1	2	2060	18	100	301	3	2
13	583	C 1	2	1750	C 4	19	275	3	2
14	583	C 1	2	1560	C 4	17	347	3	3
15	575	C 1	2	1510	C 4	16	320	4	3
16	542	1	1	1570	C 4	17	308	4	3
17	526	2	3	1240	C 4	13	282	5	4
18	583	C 2	3	1120	C 1	3	448	-- E	6
19	509	C 2	3	1040	C 1	3	846	-- E	20
20	478	C 2	3	1020	C 1	3	478	11	14
21	448	C 2	2	888	C 1	2	368	5	5
22	485	C 2	3	816	C 2	4	334	4	4
23	462	C 3	4	737	C 2	4	347	4	4
24	455	C 3	4	681	C 2	4	314	3	2
25	455	C 3	4	636	C 2	3	288	5	4
26	410	2	2	601	4	6	245	5	3
27	826	7	16	566	2	3	221	3	2
28	910	8	20	550	3	4	215	2	1
29	836	3	7	592	8	13	210	2	1
30	786	2	4	766	23	48	269	3	2
31	--	--	--	575	6	9	--	--	--
TOTAL	21524	--	154	33833	--	703	10776	--	116

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	245	2	1	204	1	1	294	C 2	2
2	233	2	1	188	C 2	1	257	C 2	1
3	766	15 B	31	294	C 2	2	251	C 2	1
4	418	3	3	448	6 B	7	215	C 2	1
5	308	3	2	448	6	7	199	C 2	1
6	263	4	3	334	1	1	183	C 1	T
7	239	4	2	269	1	1	177	C 1	T
8	227	3	2	485	23 S	32	177	C 1	T
9	245	2	1	558	25 S	55	172	C 1	T
10	334	4	4	931	27 S	72	294	3	2
11	448	5	6	583	6	9	245	2	1
12	382	1	1	455	2	2	177	C 1	T
13	294	C 1	1	396	C 1	1	166	C 1	T
14	275	C 1	1	320	C 1	1	166	C 1	T
15	314	C 1	1	275	C 1	1	161	C 1	T
16	340	C 1	1	251	C 1	1	161	2	1
17	239	C 1	1	233	C 1	1	161	C 1	T
18	221	C 1	1	221	C 1	1	152	C 1	T
19	245	C 1	1	215	C 1	1	138	C 1	T
20	221	C 1	1	227	C 1	1	133	C 1	T
21	210	C 1	1	204	C 1	1	152	2	1
22	215	C 1	1	183	C 1	T	245	4	3
23	239	C 2	1	166	C 1	T	177	2	1
24	215	C 2	1	161	1	T	156	C 2	1
25	340	C 2	2	389	8	8	156	C 2	1
26	251	C 2	1	418	6	7	133	C 2	1
27	199	C 2	1	425	4	4	128	C 2	1
28	257	14 B	10	826	11	24	133	C 2	1
29	396	5	5	517	3	4	257	6	4
30	301	1	1	396	2	2	188	3	2
31	221	1	1	334	2	2	--	--	--
TOTAL	9101	--	90	11354	--	251	5604	--	31

TOTAL DISCHARGE FOR YEAR (CFS-DAYS).....190712
TOTAL LOAD FOR YEAR (TONS).....4613

E Estimated.
S Computed by subdividing day.
T Less than 0.50 ton.
B Computed from estimated-concentration graph.
C Composite period.

1-4738. SCHUYLKILL RIVER AT MANAYUNK, PHILADELPHIA, PA.

LOCATION.--Lat 40°01'41", long 75°13'44", at Green Lane Avenue Bridge, 5 miles upstream from the gaging station at Fairmount Dam, Philadelphia County.
DRAINAGE AREA.--1,893 square miles (at Fairmount Dam).
RECORDS AVAILABLE.--Sediment records: November 1947 to September 1967.
EXTREMES, 1966-67.--Sediment concentrations: Maximum daily, 860 ppm Mar. 7; minimum daily, 2 ppm Oct. 16-18, Nov. 22 and Dec. 7.
Sediment loads: Maximum daily, 93,000 tons Mar. 7; minimum daily, 2 tons Oct. 16-18, Nov. 22, 23.
EXTREMES, 1947-67.--Sediment concentrations: Maximum daily, 4,910 ppm Dec. 30, 1948; minimum daily, 1 ppm on many days.
Sediment loads: Maximum daily, 650,000 (estimated) tons Aug. 19, 1955; minimum daily, less than 0.05 ton Sept. 2, 1966.
REMARKS.--Records of water temperature are published for the Schuylkill River at Belmont Filter Plant, Philadelphia, Pa. Records of temperature of sediment samples available in the WRD office at Harrisburg, Pa. The streamflow records given are for the Schuylkill River at Philadelphia (Fairmount Dam). These records do not include water diverted by the City of Philadelphia for municipal water supply. Prior to the 1958 water year, published sediment records included diverted water.

Suspended sediment, water year October 1966 to September 1967
(Where no daily concentrations are reported, loads are estimated)

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	747	13	26	331	5	4	2400	22	140
2	2040	26	140	390	9	9	1820	9	44
3	1730	24	110	1050	28	79	1440	9	35
4	1130	17	52	838	15	34	1090	9	26
5	838	8	18	730	13	26	946	9	23
6	594	5	8	662	10	18	946	4	10
7	458	3	4	492	10	13	946	2	5
8	424	5	6	458	9	11	910	3	7
9	360	6	6	424	6	7	874	4	9
10	360	6	6	424	6	7	838	4	9
11	331	7	6	526	12	17	910	7	17
12	304	8	6	696	15	28	874	6	14
13	278	6	4	730	8	16	910	6	15
14	254	4	3	628	6	10	1130	7	21
15	278	4	3	492	8	11	1250	7	24
16	360	2	2	458	8	10	1170	7	22
17	331	2	2	424	7	8	1020	7	19
18	304	2	2	370	7	7	1050	4	11
19	4410	150 S	2300	372	6	6	1360	3	11
20	6370	140 S	2800	359	6	6	1360	9	33
21	2080	20	110	327	4	4	1390	8	30
22	1250	15	51	321	2	2	1210	5	16
23	946	22	56	305	3	2	1170	4	13
24	766	11	23	334	8	7	1170	4	13
25	696	11	21	327	--	6	927	9	22
26	628	11	19	476	--	10	999	8	22
27	526	10	14	500	--	10	1130	8	24
28	492	9	12	1020	--	40	1090	5	15
29	424	9	10	4720	160	2000	2280	11	68
30	390	6	6	3740	85	860	4410	19	230
31	360	8	8	--	--	--	3300	13	120
TOTAL	30459	--	5834	22924	--	3268	42320	--	1068

S Computed by subdividing day.

1-4738. SCHUYLKILL RIVER AT MANAYUNK, PHILADELPHIA, PA.--Continued

Suspended sediment, water year October 1966 to September 1967--Continued
(Where no daily concentrations are reported, loads are estimated)

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	2580	13	90	2950	13	100	1080	9	26
2	2290	11	68	2750	10	74	1130	8	24
3	2220	16	96	2900	10	78	1170	8	25
4	2120	16	92	2750	12	89	1140	12	37
5	2060	19	100	2320	11	69	1490	8	32
6	1860	18	90	2140	10	58	3600	20 S	290
7	1650	19	85	1960	12	64	33700	860 S	93000
8	2920	29 A	230	1530	12	50	17600	500 S	26000
9	5760	37 A	580	1530	12	50	10100	120	3300
10	3700	23	230	1780	12	58	7860	120	2500
11	2920	17	130	1880	10	51	7230	40	780
12	2480	20	130	1780	14	67	7720	65	1400
13	2220	20	120	1490	12	48	7300	100	2000
14	2180	18	100	1250	10	34	6340	60	1000
15	2540	29 A	200	1450	19 A	74	5240	30	420
16	3530	--	400	3000	100	810	6210	21	350
17	2590	36 A	250	3500	79	750	6080	--	300
18	2290	34	210	2320	12	75	5240	--	300
19	1800	34	160	1960	10	53	4520	--	200
20	1510	32	130	1830	10	49	3990	--	200
21	1540	30	120	1880	12	61	3880	14	150
22	1570	25	100	1780	14	67	3990	23	250
23	1700	--	100	1700	12	55	4220	--	200
24	2560	--	200	1610	11	48	4220	19	220
25	3330	--	300	1250	10	34	5180	23	320
26	3360	--	300	900	8	19	4940	15	200
27	4800	--	400	1080	9	26	4520	--	200
28	11100	--	3000	1180	9	29	4220	19	220
29	6210	--	500	--	--	--	4700	25	320
30	4460	13	160	--	--	--	5000	18	240
31	3450	9	84	--	--	--	4280	20	230
TOTAL	95300	--	8755	54450	--	3040	187890	--	134734

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	3820	22	230	2370	16	100	1570	12	51
2	3600	20	190	2280	16	98	1370 C	13	48
3	3400	18	160	2460	--	100	1220 C	13	43
4	3050	16	130	2800	20	150	1140 C	13	40
5	2750	14	100	2320	16	100	1110	12	36
6	2700	14	100	2460	10	66	1000	12	32
7	3400	21	190	4760	--	200	900	11	27
8	3550	18	170	9740	--	1000	869 C	22	52
9	2750	18	130	6420	33	570	838 C	22	50
10	2460	16	110	5560	26	390	776 C	22	46
11	2280	12	74	4820	10	130	714 C	17	33
12	2010	12	65	8300	25	560	683 C	17	31
13	1880	12	61	6400	8	140	621 C	15	25
14	1830	16	79	5240	5	71	621 C	15	25
15	1830	16	79	5000	8	110	621 C	15	25
16	1780	14	67	5760	15	230	683 C	15	28
17	1740	13	61	4280	13	150	590 C	15	24
18	2010	16	87	3500	13	120	981 C	13	34
19	2010	16	87	3150	12	100	1250 C	13	44
20	1700	14	64	2950	12	96	1960 C	13	69
21	1490	15	60	2700	12	87	1180 C	20	64
22	1490	15	60	2420	12	78	970 C	20	52
23	1490	15	60	2280	11	68	1830 C	20	99
24	1570	18	76	2100	10	57	1110 C	20	60
25	1570	20	85	1920	7	36	900	15	36
26	1530	16	66	1830	4	20	714	15	29
27	1530	20	83	1700 C	13	60	621	15	25
28	4880	29	380	1570 C	13	55	509 C	19	26
29	3300	21	190	1570 C	13	55	482 C	19	25
30	2600	18	130	1920	14	72	776	22	46
31	--	--	--	2060	14	78	--	--	--
TOTAL	72000	--	3424	112640	--	5147	28609	--	1225

S Computed by subdividing day.
A Computed from partly estimated-concentration graph.
C Composite period.

1-4738. SCHUYLKILL RIVER AT MANAYUNK, PHILADELPHIA, PA.--Continued

Suspended sediment, water year October 1966 to September 1967--Continued
(Where no daily concentrations are reported, loads are estimated)

	JULY				AUGUST				SEPTEMBER			
DAY	MEAN DISCHARGE (CFS)		MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)		MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)		MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	838		18	41	1140		16	49	1180		24	76
2	714		23	44	838		17	38	1040		18	50
3	1330	C	25	90	2750		58 S	900	900		21	51
4	1530	C	25	100	5360		110	1600	838		14	32
5	1530	C	22	91	3720		60	600	714		11	21
6	900	C	22	53	2750		40	300	590		10	16
7	714	C	22	42	1830		35	170	536		9	13
8	621	C	22	37	1370		35	130	509		10	14
9	621	C	22	37	4100		65 S	720	482		12	16
10	1410		24 A	91	7090		120	2300	509		14	19
11	2900		34 A	270	5560		80	1200	482		12	16
12	1450	C	17	66	3300		47	420	621		10	17
13	1330	C	17	61	2460		33	220	455		12	15
14	970	C	17	44	2010		26	140	401		11	12
15	1740	C	16	75	1650		25	110	347		13	12
16	1490	C	16	64	1330		24	86	374		17	17
17	1180	C	16	51	1140		21	65	374		16	16
18	935	C	16	40	1040		20	56	347		11	10
19	776		16	34	935		18	45	347		11	10
20	776		16	34	935		18	45	347		15	14
21	900		16	39	869		20	47	374		18 S	26
22	683		16	30	869		20	47	970		32 S	130
23	652		15	26	745		18	36	563		19	29
24	621		12	20	776		17	36	563		18	27
25	563		12	18	1700		24	110	455		15	18
26	869		14	33	2100		26	150	428		13	15
27	776		14	29	4280		90 S	1500	374		12	12
28	590		14	22	4820		110 S	1400	374		21	21
29	1370		18	66	3000		43	350	1080		20	58
30	2700		26	190	1960		26	140	776		16	34
31	1920		26	130	1490		22	88	--		--	--
TOTAL	35399		--	1968	73917		--	13098	17350		--	817

TOTAL DISCHARGE FOR YEAR (CFS-DAYS).....773258
TOTAL LOAD FOR YEAR (TONS).....182378

S Computed by subdividing day.
A Computed from partly estimated-concentration graph.
C Composite period.

1-4738. SCHUYLKILL RIVER AT MANAYUNK, PHILADELPHIA, PA.--Continued

Particle-size analyses of suspended sediment, water year October 1966 to September 1967
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Mar. 8, 1967.....	1245	35		16100	389			37	51	64	75	85	89	94	97	100		SCBW
Mar. 9.....	1200	40		10100	156			46	64	78	87	93	95	97	98	100		SCBW
Aug. 10.....	2340	76		7720	141			61	76	89	96	100	--	--	--	--		SCBW
Aug. 28.....	0630	73		5120	136			73	86	95	98	100	--	--	--	--		SCBW

1-4739. WISSAHICKON CREEK AT FORT WASHINGTON, PA.

LOCATION.--Lat 40°07'26", long 75°13'13", at State Highway 73 bridge, 0.5 mile downstream from Sandy Run and one mile south of Fort Washington, Montgomery County.
DRAINAGE AREA.--40.8 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1963 to September 1967 (periodic).
Sediment records: October 1963 to September 1967 (periodic).
REMARKS.--Records of specific conductance, pH, and water temperature of periodic samples available in the WRD office at Harrisburg, Pa. Flow affected by ice Dec. 25-27, Feb. 8-15, and Feb. 26-28.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
Jan. 18, 1967..	64							A 23		69	57	29		20		122	66		365	6.6	2
Aug. 29.....	62							A 29		114	51	32		13		139	46		402	7.4	14
Aug. 30.....	47	14		0.00	0.00	36	14	28	8.8	115	56	32	0.0	19	274	148	54		435	7.9	9

A Calculated Na plus K, reported as Na.

1-4739. WISSAHICKON CREEK AT FORT WASHINGTON, PA.--Continued

Periodic determinations of suspended-sediment discharge and particle-size, water year October 1966 to September 1967
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;
P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Oct. 19, 1966	--	--		750	380	A 770		--	--	--	--	--	--	--	--			
Oct. 20	--	--		150	150	61		--	--	--	--	--	--	--	--			
Oct. 22	--	--		37	25	2.5		--	--	--	--	--	--	--	--			
Nov. 6	--	--		28	13	1.0		--	--	--	--	--	--	--	--			
Nov. 13	--	--		21	12	.7		--	--	--	--	--	--	--	--			
Nov. 20	--	--		17	13	.6		--	--	--	--	--	--	--	--			
Nov. 27	--	--		20	14	.8		--	--	--	--	--	--	--	--			
Dec. 4	--	--		18	26	1.3		--	--	--	--	--	--	--	--			
Dec. 11	--	--		36	34	3.3		--	--	--	--	--	--	--	--			
Dec. 18	--	--		51	35	4.8		--	--	--	--	--	--	--	--			
Dec. 26	--	--		29	25	2.0		--	--	--	--	--	--	--	--			
Jan. 1, 1967	--	--		74	34	6.8		--	--	--	--	--	--	--	--			
Jan. 18	--	--		64	18	3.1		--	--	--	--	--	--	--	--			
Jan. 22	--	--		47	22	2.8		--	--	--	--	--	--	--	--			
Jan. 29	--	--		80	26	5.6		--	--	--	--	--	--	--	--			
Feb. 5	--	--		50	27	3.6		--	--	--	--	--	--	--	--			
Feb. 12	--	--		29	25	2.0		--	--	--	--	--	--	--	--			
Feb. 19	--	--		60	26	4.2		--	--	--	--	--	--	--	--			
Feb. 20	--	--		62	25	4.2		--	--	--	--	--	--	--	--			
Feb. 26	--	--		36	25	2.4		--	--	--	--	--	--	--	--			
Mar. 12	--	--		95	11	2.8		--	--	--	--	--	--	--	--			
Mar. 15	--	--		115	32	A 9.9		--	--	--	--	--	--	--	--			
Mar. 19	--	--		69	10	1.9		--	--	--	--	--	--	--	--			
Mar. 26	--	--		86	11	2.6		--	--	--	--	--	--	--	--			
Apr. 2	--	--		57	5	.8		--	--	--	--	--	--	--	--			
Apr. 9	--	--		48	10	1.3		--	--	--	--	--	--	--	--			
Apr. 16	--	--		37	9	.9		--	--	--	--	--	--	--	--			
Apr. 26	--	--		34	45	4.1		--	--	--	--	--	--	--	--			
Apr. 27	--	--		182	120	A 59		--	--	--	--	--	--	--	--			
Apr. 27	0500	50		151	113	--		49	60	72	85	98	99	99	100			SCBW
Apr. 30	--	--		39	10	1.0		--	--	--	--	--	--	--	--			
May 7	--	--		332	120	S 150		--	--	--	--	--	--	--	--			
May 7	1900	56		661	406	--		37	46	57	68	81	86	92	99	100		SCBW
May 8	--	--		146	29	S 14		--	--	--	--	--	--	--	--			
May 23	--	--		44	7	.8		--	--	--	--	--	--	--	--			
May 28	--	--		31	13	1.1		--	--	--	--	--	--	--	--			

S Computed by subdividing day.
A Computed from partly estimated-concentration graph.

1-4739. WISSAHICKON CREEK AT FORT WASHINGTON, PA.--Continued

Periodic determinations of suspended-sediment discharge and particle-size, water year October 1966 to September 1967--Continued

(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
June 4, 1967	--	--		27	12	0.9		--	--	--	--	--	--	--	--			
June 11	--	--		21	22	1.2		--	--	--	--	--	--	--	--			
June 26	--	--		19	20	1.0		--	--	--	--	--	--	--	--			
July 10	2200	78		1890	2030	--		42	57	71	85	98	99	100	--			SCBW
July 11	--	--		109	180	S 120		--	--	--	--	--	--	--	--			
Aug. 6	--	--		55	14	2.1		--	--	--	--	--	--	--	--			
Aug. 13	--	--		50	10	1.4		--	--	--	--	--	--	--	--			
Aug. 20	--	--		35	18	1.7		--	--	--	--	--	--	--	--			
Aug. 29	--	--		62	18	3.0		--	--	--	--	--	--	--	--			
Aug. 30	--	--		47	9	1.1		--	--	--	--	--	--	--	--			
Sept. 3	--	--		32	7	.6		--	--	--	--	--	--	--	--			
Sept. 10	--	--		29	6	.5		--	--	--	--	--	--	--	--			
Sept. 17	--	--		24	9	.6		--	--	--	--	--	--	--	--			
Sept. 24	--	--		21	6	.3		--	--	--	--	--	--	--	--			
Sept. 29	--	--		113	300	S 120		--	--	--	--	--	--	--	--			
Sept. 29	1300	68		176	401	--		47	66	86	95	100	--	--	--			SCPW

S Computed by subdividing day.

1-4745. SCHUYLKILL RIVER AT PHILADELPHIA, PA.

LOCATION.--Lat 39°58'00", long 75°11'05", at Belmont Filter Plant, 1.6 miles upstream from gaging station, 40 feet upstream from Fairmount Dam, 1,000 feet upstream from Spring Garden Street Bridge, Philadelphia, Philadelphia County, and 8.2 miles upstream from mouth.
DRAINAGE AREA.--1,893 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1945 to September 1967.
Water temperatures: October 1945 to September 1967.
EXTREMES, 1966-67.--Specific conductance: Maximum daily, 850 micromhos July 19; minimum daily, 209 micromhos Mar. 8.
Water temperatures: Maximum, 84°F July 28, 31 and Aug. 2; minimum, 37°F on several days during February and March.
EXTREMES, 1945-67.--Dissolved solids (1945-56, 1958-59): Maximum, 362 ppm Oct. 21-30, 1953; minimum, 123 ppm Feb. 21-29, 1948 and Jan. 1-10, 1949.
Hardness (1946-59): Maximum, 231 ppm Oct. 4-9, 1951; minimum, 73 ppm Jan. 1-10, 1949.
Specific conductance: Maximum daily, 972 micromhos June 25, 1965; minimum daily, 140 micromhos Feb. 27, 1962.
Water temperatures: Maximum, 88°F July 20 and Aug. 7, 1955; minimum, freezing point on many days during winter months.
REMARKS.--Samples collected at raw-water intake on west side of river at Belmont Filter Plant by City of Philadelphia. Water-quality recorder located at Belmont raw-water pumping station near Columbia Bridge. Where no potassium (K) is reported, sodium (Na) and potassium (K) are calculated and reported as sodium (Na).

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 1-10, 1966	868	11		0.00	0.00	36	18	28	5.8	75	119	33	0.4	13	322	164	103		496	7.4	7
Nov. 1-10.....	580	4.6		.00	.00	45	18	31	5.7	85	112	38	.4	12	322	187	117		510	6.9	4
Dec. 14-20.....	1190	--		--	--	--	--	28	--	65	92	33	--	13	--	145	92		422	7.2	9
Jan. 1-8, 10, 1967.....	2380	--		--	--	--	--	18	--	53	76	27	--	13	--	132	89		353	7.2	7
Feb. 1-10.....	2260	--		--	--	--	--	15	--	52	61	19	--	13	--	110	68		303	6.9	2
Mar. 1-10.....	7890	--		--	--	--	--	19	--	56	67	26	--	12	--	120	74		338	7.1	5
Apr. 1-10.....	3150	--		--	--	--	--	13	--	49	66	17	--	9.4	--	112	72		297	7.1	5
May 1-10.....	4120	--		--	--	--	--	13	--	50	70	16	--	8.9	--	115	74		292	6.9	2
June 1-10.....	1080	--		--	--	--	--	15	--	68	96	20	--	8.7	--	157	102		392	7.1	2
July 1-10.....	1020	--		--	--	--	--	21	--	80	99	26	--	8.5	--	166	101		428	7.2	5
Aug. 1-10.....	3090	--		--	--	--	--	18	--	72	71	20	--	9.0	--	130	71		339	7.0	17
Sept. 1-10.....	730	--		--	--	--	--	20	--	85	75	24	--	10	--	146	77		390	7.2	8

1-4745. SCHUYLKILL RIVER AT PHILADELPHIA, PA.--Continued

Specific conductance (micromhos at 25°C) of daily samples, water year October 1966 to September 1967

Day	October	November	December	January	February	March	April	May	June	July	August	September
1.....	504	510	--	340	282	388	281	313	344	439	399	341
2.....	517	526	--	360	309	390	295	315	360	445	380	400
3.....	526	531	--	361	296	404	291	320	369	419	374	361
4.....	494	527	--	364	295	404	292	315	382	434	291	400
5.....	488	533	--	356	296	407	291	307	395	446	255	398
6.....	490	507	--	367	296	406	299	322	398	427	318	394
7.....	499	514	--	373	300	325	311	312	408	442	318	391
8.....	475	489	--	381	317	209	318	267	427	427	354	396
9.....	483	480	--	--	324	236	310	223	430	393	363	402
10.....	503	513	--	306	332	252	313	260	411	431	351	401
11.....	550	528	--	306	349	249	307	254	420	410	238	401
12.....	568	539	--	325	374	--	319	248	452	407	265	403
13.....	572	546	--	349	361	246	319	230	467	334	265	425
14.....	591	535	434	362	352	240	331	236	466	361	--	447
15.....	620	533	453	365	361	250	351	245	515	340	302	458
16.....	619	546	449	413	360	254	374	240	502	393	316	473
17.....	625	545	421	328	350	260	357	254	483	390	318	473
18.....	631	569	330	--	307	275	357	274	467	359	331	468
19.....	598	568	416	330	316	275	346	286	440	850	341	441
20.....	413	540	441	342	330	292	338	285	442	431	361	463
21.....	310	537	477	347	340	289	349	284	497	453	377	465
22.....	316	536	--	370	350	301	352	307	520	431	401	431
23.....	355	539	427	385	--	304	369	302	423	420	407	457
24.....	374	538	426	386	360	326	389	308	432	422	417	453
25.....	379	552	422	362	364	334	375	311	413	438	412	431
26.....	390	565	--	320	372	299	373	330	340	456	389	447
27.....	419	564	432	325	386	295	360	357	384	487	380	444
28.....	450	557	453	321	401	293	333	361	442	484	328	488
29.....	477	488	465	236	--	292	306	349	460	--	302	498
30.....	494	--	425	260	--	305	315	347	453	453	307	441
31.....	508	--	342	296	--	286	--	352	--	492	313	--
Average	491	532	--	342	336	302	330	294	431	437	339	429

1-4745. SCHUYLKILL RIVER AT PHILADELPHIA, PA.--Continued

Specific conductance (micromhos at 25°C), dissolved oxygen, in parts per million, and temperature (°F) of water, water year October 1966 to September 1967

Day	OCTOBER									NOVEMBER								
	Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)			Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	548	516	533	5.0	4.1	4.4	66	66	66	512	512	512	--	--	--	59	58	59
2	568	456	540	7.2	4.6	6.3	66	64	65	532	512	521	--	--	--	59	58	58
3	548	528	--	8.2	7.9	--	66	65	65	538	522	530	--	--	--	59	59	59
4	524	488	499	7.9	6.8	7.5	65	65	65	548	532	539	--	--	--	60	59	60
5	508	488	503	6.9	6.0	6.4	66	65	65	539	496	515	--	--	--	59	59	59
6	512	408	502	6.3	5.2	5.7	66	65	65	502	496	499	--	--	--	59	59	59
7	512	492	503	5.6	5.0	5.3	65	64	64	501	478	492	--	--	--	59	58	58
8	492	440	479	6.0	5.0	5.5	64	64	64	478	464	468	--	--	--	58	57	58
9	508	480	491	5.6	5.0	5.4	65	64	64	479	460	466	--	--	--	57	57	57
10	548	508	528	5.5	4.6	5.2	65	65	65	545	481	514	--	--	--	57	57	57
11	572	552	566	5.6	4.3	4.7	66	66	66	560	545	550	--	--	--	60	58	59
12	584	576	580	6.4	5.5	5.8	66	66	66	560	560	560	--	--	--	61	60	60
13	600	584	592	8.0	6.0	6.8	66	65	65	560	560	560	--	--	--	61	61	61
14	628	560	608	7.9	5.0	6.3	66	66	66	560	550	553	--	--	--	61	60	60
15	636	480	625	6.6	4.6	5.6	66	65	65	560	550	555	--	--	--	60	60	60
16	636	516	631	6.1	4.1	5.1	65	65	65	560	560	560	--	--	--	60	58	59
17	657	624	642	6.0	4.9	--	65	65	65	570	560	562	--	--	--	58	57	58
18	657	641	650	--	--	--	65	64	64	575	570	574	5.7	5.7	--	57	57	57
19	637	372	513	--	--	--	64	62	62	575	550	560	5.9	5.4	5.6	57	57	57
20	398	300	324	--	--	--	62	59	60	550	540	543	6.4	5.6	6.0	57	56	56
21	311	300	307	--	--	--	59	59	59	540	535	537	7.0	5.9	6.4	56	55	55
22	338	310	317	--	--	--	59	59	59	535	530	532	7.4	6.2	6.7	55	54	54
23	369	338	358	--	--	--	60	59	59	530	530	530	7.4	7.0	7.3	54	53	53
24	379	369	375	--	--	--	60	60	60	535	530	532	7.4	6.8	7.0	53	53	53
25	386	380	381	--	--	--	60	60	60	545	535	--	6.9	6.2	--	53	53	--
26	412	386	403	--	--	--	60	60	60	--	--	--	--	--	--	--	--	--
27	442	412	432	--	--	--	60	60	60	--	--	--	--	--	--	--	--	--
28	472	442	459	--	--	--	60	60	60	--	--	--	--	--	--	--	--	--
29	487	472	478	--	--	--	60	60	60	--	--	--	--	--	--	--	--	--
30	504	488	500	--	--	--	60	60	60	--	--	--	--	--	--	--	--	--
31	511	507	511	--	--	--	60	59	59									
	DECEMBER									JANUARY								
1										334	308	315	--	--	--	--	--	--
2										340	332	335	--	--	--	--	--	--
3										348	342	346	--	--	--	--	--	--
4										350	347	349	12.3	10.7	--	40	40	--
5										359	347	351	11.3	10.7	11.0	40	40	40
6										360	358	359	11.5	10.9	11.2	40	40	40
7										368	358	362	11.6	11.1	11.3	42	40	41
8										382	368	374	11.4	11.0	11.1	42	42	42
9										380	299	330	13.7	11.6	12.8	42	40	41
10										299	299	299	13.2	12.9	13.0	40	40	40
11										307	299	300	13.1	12.7	12.9	40	40	40
12										337	307	322	13.5	13.1	13.3	40	40	40
13										351	338	342	13.1	12.9	13.1	40	40	40
14										359	352	354	12.8	12.3	12.5	40	40	40
15										365	359	362	12.3	12.1	12.2	40	40	40
16										359	332	349	12.9	12.0	12.4	40	40	40
17										331	314	321	12.2	11.8	12.0	40	40	40
18										323	316	321	12.3	11.6	12.0	40	40	40
19										327	322	323	12.6	12.0	12.4	40	39	39
20										332	330	331	12.6	11.9	12.2	39	39	39
21										356	332	341	12.3	12.0	12.1	39	39	39
22										374	359	366	11.7	11.7	--	39	39	--
23										380	375	378	--	--	--	--	--	--
24										382	373	379	--	--	--	--	--	--
25										374	332	351	11.6	11.2	--	--	--	--
26										328	305	312	11.5	11.1	11.3	--	--	--
27										337	303	318	11.1	10.5	10.8	--	--	--
28										326	210	241	12.8	10.5	12.1	--	--	--
29										238	212	232	12.9	12.1	12.5	--	--	--
30										341	238	247	13.2	12.0	12.7	--	--	--
31										257	248	253	13.2	13.0	13.1	--	--	--

1-4745. SCHUYLKILL RIVER AT PHILADELPHIA, PA.--Continued

Specific conductance (micromhos at 25°C), dissolved oxygen, in parts per million, and temperature (°F) of water, water year October 1966 to September 1967--Continued

Day	FEBRUARY									MARCH								
	Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)			Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	--	--	--	--	--	--	--	--	--	370	350	359	12.6	12.1	12.3	38	36	37
2	--	--	--	--	--	--	--	--	--	385	355	368	12.5	12.2	12.3	38	36	37
3	--	--	--	--	--	--	--	--	--	385	365	375	12.4	11.6	11.9	42	37	40
4	--	--	--	--	--	--	--	--	--	385	370	378	11.7	10.8	11.1	44	41	43
5	--	--	--	--	--	--	--	--	--	395	380	388	11.1	10.5	10.8	45	43	44
6	--	--	--	--	--	--	--	--	--	405	370	386	11.8	10.7	11.1	45	43	45
7	--	--	--	--	--	--	--	--	--	365	150	215	12.3	10.8	11.6	43	35	37
8	--	--	--	--	--	--	--	--	--	200	150	187	13.1	12.4	12.8	37	35	36
9	--	--	--	--	--	--	--	--	--	220	200	207	12.8	12.6	12.7	41	37	39
10	--	--	--	--	--	--	--	--	--	230	215	221	12.7	11.6	12.3	44	41	43
11	--	--	--	--	--	--	--	--	--	235	215	226	11.6	11.3	11.4	47	44	46
12	--	--	--	--	--	--	--	--	--	235	215	224	11.7	11.4	11.6	48	46	47
13	--	--	--	--	--	--	--	--	--	225	215	221	11.7	11.6	11.6	46	45	46
14	--	--	--	--	--	--	--	--	--	220	210	217	11.9	11.4	11.7	48	45	46
15	--	--	--	--	--	--	--	--	--	270	215	247	11.4	11.2	11.3	48	46	47
16	--	--	--	--	--	--	--	--	--	275	260	272	12.7	11.2	11.7	46	45	45
17	--	--	--	--	--	--	--	--	--	310	275	285	11.9	11.5	11.7	45	43	44
18	--	--	--	--	--	--	--	--	--	300	285	293	12.5	11.8	12.2	42	40	41
19	--	--	--	--	--	--	--	--	--	315	290	301	12.6	12.3	12.4	41	39	40
20	--	--	--	--	--	--	--	--	--	315	290	301	12.6	12.3	12.4	40	39	40
21	--	--	--	12.7	12.4	--	42	41	--	325	305	314	12.5	12.3	12.4	41	39	40
22	--	--	--	12.9	12.4	12.7	42	40	41	350	325	333	12.3	12.1	12.2	41	39	40
23	--	--	--	12.7	11.7	12.3	42	41	41	360	330	343	12.2	11.9	12.1	42	41	42
24	365	340	--	11.9	11.6	11.8	41	40	41	350	335	343	11.9	11.7	11.8	45	43	44
25	350	330	341	12.4	11.8	12.1	40	36	38	340	315	332	11.8	11.3	11.6	46	43	45
26	370	340	350	13.1	12.2	12.6	36	34	35	325	300	315	11.8	11.3	11.5	49	45	47
27	375	355	366	13.2	12.8	13.1	35	34	34	320	305	312	11.4	11.0	11.3	50	48	49
28	380	370	375	13.2	12.7	12.9	38	35	36	325	310	--	11.0	10.8	--	51	50	--
29										--	--	--	--	--	--	--	--	--
30										--	--	--	--	--	--	--	--	--
31										310	300	--	10.8	10.4	--	54	52	--
	APRIL									MAY								
1	320	295	308	10.4	9.9	10.1	57	53	55	--	--	--	--	--	--	--	--	--
2	320	300	311	9.9	9.5	9.7	60	56	58	--	--	--	--	--	--	--	--	--
3	315	300	--	9.5	8.8	9.2	62	59	--	--	--	--	--	--	--	--	--	--
4	325	305	315	9.5	8.8	9.1	60	58	59	--	--	--	--	--	--	--	--	--
5	320	305	315	9.6	9.2	9.4	59	57	58	350	340	--	--	--	--	66	65	--
6	330	305	318	9.3	8.9	9.1	58	57	58	360	340	353	--	--	--	65	63	64
7	350	325	340	9.6	9.0	9.2	58	55	57	345	305	326	--	--	--	63	56	60
8	345	325	335	10.1	9.5	9.9	56	54	55	310	240	260	--	--	--	56	53	53
9	340	320	332	10.1	9.9	10.0	55	54	55	270	240	258	--	--	--	55	53	54
10	340	325	335	10.0	9.4	9.8	57	54	56	280	270	276	--	--	--	55	54	55
11	355	325	342	9.8	9.3	9.5	58	55	56	280	260	268	10.3	10.3	--	55	54	55
12	360	335	347	9.9	9.7	9.8	57	54	55	265	240	251	10.3	9.7	10.1	55	54	55
13	360	345	350	9.9	9.5	9.7	56	55	55	250	240	244	9.9	9.3	9.8	57	55	56
14	380	360	369	9.7	9.3	9.5	59	55	57	260	250	257	10.0	9.6	9.7	57	56	56
15	385	370	380	9.4	8.3	8.9	62	58	60	275	255	267	10.1	9.3	9.8	57	56	56
16	390	365	382	8.7	7.8	8.1	64	61	62	250	250	--	9.3	9.3	--	56	56	--
17	375	365	371	8.0	7.4	7.5	62	61	62	--	--	--	--	--	--	--	--	--
18	380	355	370	7.6	7.0	7.4	61	60	61	305	295	--	9.0	8.7	--	62	61	--
19	370	355	361	8.7	7.6	8.2	60	57	59	305	295	300	8.8	7.6	8.2	65	61	63
20	365	355	360	8.9	8.3	8.7	59	56	57	305	300	301	7.6	7.1	7.3	68	64	66
21	365	355	361	8.5	7.8	8.2	61	57	59	320	300	310	7.3	6.9	7.1	66	65	66
22	390	365	380	8.2	7.5	7.8	63	60	62	330	310	321	7.0	6.4	6.8	65	64	64
23	400	380	391	8.2	6.8	7.6	63	61	62	350	335	--	8.0	7.4	--	65	64	--
24	415	400	404	8.3	7.8	8.0	62	58	60	350	340	344	8.0	7.5	7.8	64	62	63
25	400	385	391	8.8	8.3	8.5	58	55	57	360	340	349	7.9	7.7	7.9	62	60	61
26	400	380	388	9.2	8.0	8.6	58	56	57	365	360	--	8.0	7.8	--	60	59	--
27	385	360	369	9.4	8.7	9.0	57	54	55	--	--	--	--	--	--	--	--	--
28	365	350	--	9.6	8.3	--	54	54	--	--	--	--	--	--	--	--	--	--
29	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
31										--	--	--	--	--	--	--	--	--

1-4745. SCHUYLKILL RIVER AT PHILADELPHIA, PA.--Continued

Specific conductance (micromhos at 25°C), dissolved oxygen, in parts per million, and temperature (°F) of water, water year October 1966 to September 1967--Continued

Day	JUNE									JULY								
	Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)			Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	--	--	--	--	--	--	--	--	--	485	470	475	5.5	2.1	3.5	80	77	78
2	385	360	--	7.3	6.5	--	74	72	--	485	460	470	5.1	1.6	3.3	82	78	80
3	400	375	388	7.4	5.6	6.5	75	72	74	460	410	441	3.1	1.7	--	82	80	81
4	425	395	408	7.0	5.2	6.1	78	75	76	470	455	462	--	--	--	82	80	81
5	425	400	419	7.1	5.4	6.4	78	76	77	475	455	466	--	--	--	81	80	81
6	445	400	426	6.4	4.4	5.5	80	76	78	460	455	--	--	--	--	80	79	--
7	455	415	444	7.5	4.6	6.0	82	77	79	--	--	--	--	--	--	--	--	--
8	455	450	451	7.8	4.0	5.8	82	79	81	--	--	--	--	--	--	--	--	--
9	450	445	449	5.4	3.5	4.4	83	79	81	--	--	--	--	--	--	--	--	--
10	445	440	442	8.7	3.6	5.8	83	79	81	495	480	--	6.7	5.3	--	83	82	--
11	460	445	450	10.5	5.0	7.4	85	80	83	470	405	439	5.4	4.9	5.1	85	81	83
12	490	460	476	9.9	7.0	8.6	86	82	84	445	420	--	5.1	4.3	--	84	84	--
13	500	485	492	9.0	5.8	7.2	86	83	85	--	--	--	--	--	--	--	--	--
14	530	500	513	6.9	4.8	5.7	83	81	82	--	--	--	--	--	--	--	--	--
15	530	515	526	7.8	3.6	5.3	82	80	81	--	--	--	--	--	--	--	--	--
16	540	525	533	7.7	4.3	5.8	84	80	82	--	--	--	--	--	--	--	--	--
17	540	510	523	8.3	5.0	6.4	86	82	84	--	--	--	--	--	--	--	--	--
18	510	495	501	6.4	4.0	5.0	85	83	84	--	--	--	--	--	--	--	--	--
19	500	395	451	3.7	2.0	2.8	84	79	80	--	--	--	--	--	--	--	--	--
20	540	485	507	4.9	3.6	4.4	81	78	80	495	485	--	7.7	4.9	--	83	82	--
21	550	540	546	5.1	4.2	4.5	83	79	81	495	445	475	7.6	4.6	5.7	83	80	82
22	560	480	525	4.1	3.3	3.6	83	81	82	455	440	445	6.4	4.5	5.3	83	80	82
23	480	440	471	4.0	2.2	3.2	84	81	82	460	450	454	7.3	4.9	5.8	85	82	84
24	475	440	450	4.4	2.9	3.6	85	83	84	475	440	459	8.4	4.4	6.3	87	83	85
25	450	365	419	3.5	2.5	3.0	85	83	84	500	465	488	8.7	5.0	--	87	85	86
26	395	355	371	2.8	1.7	2.4	84	81	82	525	495	509	7.4	3.9	5.7	88	84	86
27	450	400	431	1.9	1.8	--	82	80	81	530	515	523	7.4	3.8	5.6	89	86	88
28	480	450	467	--	--	--	82	79	80	535	525	529	6.4	3.4	5.0	88	87	88
29	485	480	481	--	--	--	80	78	79	550	525	537	6.5	2.5	4.4	87	85	86
30	490	460	479	6.2	2.4	--	79	77	78	540	460	491	4.4	2.1	3.2	86	84	85
31										455	430	441	3.7	2.3	3.0	85	83	84
	AUGUST									SEPTEMBER								
1	435	410	423	4.5	2.7	3.5	85	82	83	--	--	--	--	--	--	--	--	--
2	410	395	402	6.6	3.5	4.9	85	83	84	--	--	--	--	--	--	--	--	--
3	430	330	399	5.6	4.2	4.8	84	80	83	--	--	--	--	--	--	--	--	--
4	360	250	307	5.3	4.2	4.9	82	78	80	--	--	--	--	--	--	--	--	--
5	325	270	294	5.2	4.9	5.0	80	78	79	--	--	--	--	--	--	--	--	--
6	355	330	346	5.0	4.7	4.9	82	79	81	420	405	--	--	--	--	77	76	--
7	380	325	353	6.3	4.6	5.3	81	80	80	--	--	--	--	--	--	--	--	--
8	390	355	370	5.3	4.1	4.8	81	80	81	--	--	--	--	--	--	--	--	--
9	390	345	374	5.0	3.6	4.5	82	80	81	--	--	--	--	--	--	--	--	--
10	365	255	314	4.9	3.0	3.8	81	78	79	--	--	--	--	--	--	--	--	--
11	300	245	278	4.0	3.0	3.2	78	76	77	430	415	--	--	--	--	75	74	--
12	290	270	278	4.0	3.0	3.2	77	76	76	445	425	433	7.1	6.1	--	75	72	74
13	290	270	286	3.3	3.1	3.1	76	75	76	465	445	454	7.5	4.4	6.6	74	71	73
14	315	290	301	4.2	2.9	3.1	76	74	75	480	465	471	7.9	5.5	6.6	74	71	72
15	330	305	318	3.8	2.8	3.1	78	75	77	505	480	490	7.2	5.4	6.2	73	71	72
16	345	330	335	4.3	2.7	3.5	80	77	79	--	--	--	--	--	--	--	--	--
17	350	330	339	3.8	2.9	--	81	79	8[illegible]	510	490	--	6.4	4.1	--	76	71	--
18	355	345	351	--	--	--	83	80	82	515	480	494	7.3	5.0	6.2	76	73	--
19	375	350	365	--	--	--	85	81	83	500	480	491	7.6	4.9	6.1	--	--	--
20	400	375	388	--	--	--	83	83	83	495	480	486	6.5	4.1	5.2	--	--	--
21	420	380	402	--	--	--	84	82	83	495	480	488	4.4	2.0	2.9	77	76	77
22	445	410	429	--	--	--	83	82	82	480	450	463	3.3	1.8	2.5	77	75	76
23	460	440	450	--	--	--	82	79	80	495	470	483	4.4	2.4	3.3	75	72	74
24	470	445	459	--	--	--	79	77	78	470	445	454	4.5	2.4	3.6	72	70	--
25	460	435	446	--	--	--	77	76	76	485	455	470	6.3	3.7	5.0	70	69	--
26	440	400	415	--	--	--	76	74	75	470	455	465	6.3	4.7	5.4	69	67	68
27	415	340	387	--	--	--	76	75	75	475	455	468	7.6	5.3	6.3	70	67	69
28	375	320	336	--	--	--	75	74	75	525	475	500	6.5	4.0	5.3	71	69	70
29	335	325	330	--	--	--	76	74	75	530	460	503	3.9	3.0	3.3	72	70	71
30	350	330	343	--	--	--	78	75	77	470	455	463	3.3	2.8	3.1	72	71	71
31	350	340	--	--	--	--	78	77	--									

1-4745. SCHUYLKILL RIVER AT PHILADELPHIA, PA.--Continued

Temperature (°F) of water, water year October 1966 to September 1967

MONTH	DAY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER..	64	--	--	--	--	--	--	--	66	67	67	67	67	66	66	65	65	64	64	64	64	60	57	58	59	59	59	59	59	--	--	--
NOVEMBER.	--	--	--	--	--	60	59	--	59	60	61	--	59	58	57	--	55	55	55	54	52	52	50	49	50	50	--	--	--	--	--	--
DECEMBER.	--	--	--	--	--	--	--	--	--	--	--	--	--	49	47	46	41	45	45	48	43	--	40	40	43	--	38	39	36	36	38	--
JANUARY..	39	39	39	40	40	40	40	--	--	--	--	--	--	--	41	45	41	--	39	38	38	39	41	43	45	47	48	49	46	43	41	--
FEBRUARY.	41	43	42	42	42	41	41	40	38	37	38	38	37	38	38	39	41	40	40	40	40	40	--	40	40	38	37	37	--	--	--	39
MARCH....	37	37	39	40	--	--	39	39	39	45	40	--	46	46	47	46	45	44	42	42	42	41	42	43	44	46	49	48	48	50	51	43
APRIL....	53	53	--	58	57	59	59	58	58	55	55	54	54	55	55	58	60	60	60	57	58	59	60	60	59	58	57	56	56	56	--	57
MAY.....	57	60	62	63	64	64	62	59	55	53	54	53	54	55	56	56	56	57	59	61	64	63	63	63	61	60	60	63	65	66	66	59
JUNE.....	67	68	70	72	73	74	75	77	78	78	78	81	82	82	80	80	80	82	79	80	80	78	79	79	80	81	80	79	78	78	--	77
JULY.....	78	70	79	79	62	78	78	77	77	77	79	81	82	81	81	81	81	81	81	81	81	80	81	81	82	82	82	84	--	83	84	79
AUGUST...	82	84	82	83	80	79	78	78	79	78	77	76	76	76	75	77	78	79	80	82	82	81	80	80	79	76	77	74	73	74	75	78
SEPTEMBER	74	74	73	73	66	72	74	73	75	76	74	73	73	73	73	73	72	70	71	72	72	--	72	71	70	68	68	67	69	69	--	71

1-4755.3. COBBS CREEK AT U.S. HIGHWAY NO. 1, NEAR PHILADELPHIA, PA.

LOCATION.--Lat 39°59'29", long 75°16'49", at gaging station on left bank 30 feet downstream from bridge on U.S. Highway 1 and 50 feet upstream from unnamed tributary on right bank at west city limits of Philadelphia. Sediment samples collected at gage on low flow and at U.S. Highway 1 Bridge on high flow.
DRAINAGE AREA.--7.15 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1964 to September 1967 (periodic).
Sediment records: November 1964 to September 1967 (periodic).
REMARKS.--Records of specific conductance, pH, and temperature of sediment samples available in the WRD office at Harrisburg, Pa. Flow affected by ice Dec. 25-27, Feb. 8-14, 26-28, and Mar. 1. Where no potassium (K) is reported, sodium (Na) and potassium (K) are calculated and reported as sodium (Na).

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
Jan. 17, 1967..	4.4							14		59	48	22		15		112	64		299	6.9	2
May 15.....	14							43		122	51	23		.4		92	0		370	6.8	17
Aug. 30.....	4.7							12		76	41	18		12		115	53		285	7.2	4

1-4755.3. COBBS CREEK AT U.S. HIGHWAY NO. 1, NEAR PHILADELPHIA, PA.--Continued

Periodic determinations of suspended-sediment discharge, water year October 1966 to September 1967
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Oct. 10, 1966	0945	59		2.2	1	T												
Oct. 10	1300	63		2.2	2	T												
Oct. 17	1540	55		2.0	2	T												
Oct. 19	1300	58		142	56	21												
Oct. 19	1430	57		192	139	72												
Oct. 19	1750	57		51	58	8.0												
Oct. 25	0920	57		2.9	1	T												
Nov. 1	1030	53		2.7	2	T												
Nov. 4	1045	44		2.9	1	T												
Nov. 4	1330	--		3.0	3	T												
Nov. 7	1540	52		2.9	1	T												
Nov. 11	0645	59		5.6	22	.3												
Nov. 12	0930	52		3.2	8	.1												
Nov. 12	1130	59		4.9	30	.4												
Nov. 15	1015	45		2.7	2	T												
Nov. 22	1030	41		2.5	2	T												
Nov. 26	1145	55		5.4	5	.1												
Nov. 29	0845	45		4.9	4	.1												
Dec. 5	1645	37		2.7	3	T												
Dec. 11	1000	53		3.8	7	.1												
Dec. 13	1300	40		2.5	3	T												
Dec. 20	0830	38		3.0	3	T												
Jan. 6, 1967	1300	39		4.0	2	T												
Jan. 8	1100	43		20	118	6.4												
Jan. 8	1330	40		36	159	15												
Jan. 13	1345	39		4.0	2	T												
Jan. 14	1045	--		5.9	6	.1												
Jan. 21	1130	38		3.8	2	T												
Jan. 27	1100	48		4.3	5	.1												
Jan. 27	1430	48		335	249	225												
Feb. 3	1200	41		4.7	6	.1												
Feb. 15	1645	46		15	73	3.0												
Feb. 23	1530	47		7.1	21	.4												
Mar. 3	1600	55		4.7	5	.1												
Mar. 6	0900	42		27	299	22												
Mar. 6	1110	42		32	278	24												
Mar. 6	1515	43		14	61	2.3												
Mar. 7	0800	37		388	1580	1660												
Mar. 10	1130	54		7.3	4	.1												
Mar. 13	1600	47		6.8	3	.1												
Mar. 15	0900	49		14	46	1.7												
Mar. 18	1000	35		6.6	2	T												

T Less than 0.05 ton.

1-4755.3. COBBS CREEK AT U.S. HIGHWAY NO. 1, NEAR PHILADELPHIA, PA.--Continued

Periodic determinations of suspended-sediment discharge, water year October 1966 to September 1967--Continued
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Mar. 23, 1967	1620	45		8.7	20	.5												
Mar. 25	1100	49		7.1	3	.1												
Mar. 27	1600	49		5.9	3	T												
Apr. 1	1350	64		9.2	4	.1												
Apr. 7	1000	49		59	17	2.7												
Apr. 15	1115	67		4.9	7	.1												
Apr. 17	1600	54		17	436	20												
Apr. 17	1945	51		13	17	.6												
Apr. 22	1000	59		7.1	4	.1												
Apr. 24	0945	50		15	42	1.7												
Apr. 27	0800	45		37	63	6.3												
Apr. 27	1015	46		22	39	2.3												
Apr. 27	1400	48		18	43	2.1												
Apr. 30	1050	59		4.5	4	T												
May 6	0920	56		18	115	5.6												
May 6	1150	55		24	79	5.1												
May 7	0830	51		8.1	20	.4												
May 7	1030	50		75	423	86												
May 7	1220	49		161	692	301												
May 7	1510	49		80	351	76												
May 9	0920	53		8.7	10	.2												
May 11	1130	55		8.4	32	.7												
May 11	1300	55		27	45	3.3												
May 11	1630	55		34	86	7.9												
May 14	1100	57		7.3	8	.2												
May 15	1830	60		7.1	7	.1												
May 21	1130	56		6.6	12	.2												
May 28	1400	70		3.8	27	.3												
May 29	1000	54		5.2	94	1.3												
May 29	1315	58		22	115	6.8												
May 29	1715	59		8.7	35	.8												
June 5	1115	70		3.0	5	T												
June 11	1630	80		2.9	15	.1												
June 15	1255	69		2.7	3	T												
June 19	0900	69		15	46	1.9												
June 19	1330	67		6.8	10	.2												
June 25	1830	78		2.7	8	.1												
July 2	1115	73		2.9	4	T												
July 3	0700	71		9.2	50	1.2												
July 6	1445	71		3.2	10	.1												
July 9	1030	73		2.7	3	T												
Aug. 30	1435	71		3.8	8	.1												

T Less than 0.05 ton.

1-4762. DELAWARE RIVER AT EDDYSTONE, PA.

LOCATION (revised).--Lat 39°50'57", long 75°19'43", at center of river on a line between piers 11 and 12 just above Chester Front light through channel station +97.2 to the middle of Monds Island on the New Jersey shore.
DRAINAGE AREA.--10,190 square miles.
RECORDS AVAILABLE.--Chemical analyses: August 1949 to September 1967.
REMARKS.--Samples collected approximately 3 feet from surface and 3 feet from bottom, respectively. Records of discharge are given for Delaware River at Trenton, N. J. Further information on this station is given in U.S. Geological Survey Water-Supply Paper 1809-O.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Temperature (°F)	Mean discharge (cfs)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	pH	Biochemical oxygen demand	Dissolved oxygen
Oct. 17, 1966							
Top		2620	--	616	6.9	6.0	1.0
Bottom			100	612	6.8	--	--
Nov. 2							
Top		2620	--	375	6.8	6.4	.5
Bottom			38	371	6.7	--	--
Dec. 6							
Top		5400	--	401	6.9	7.5	1.9
Bottom			39	394	6.9	--	--
Jan. 5, 1967							
Top		6750	--	327	6.9	4.8	5.4
Bottom			31	323	6.8	--	--
Feb. 2							
Top		14200	--	--	--	5.1	8.4
Bottom			--	--	--	--	--
Mar. 9							
Top		14900	--	228	7.0	6.0	8.5
Bottom			18	226	6.8	--	--
Apr. 13							
Top		14500	--	155	7.0	3.1	7.2
Bottom			8.0	156	7.1	--	--
May 4							
Top		10600	--	243	7.1	3.7	4.7
Bottom			16	244	7.0	--	--
June 8							
Top		5290	--	233	6.8	1.0	1.6
Bottom			15	235	6.9	--	--
July 13							
Top		6270	--	293	6.8	6.4	1.0
Bottom			--	--	--	--	--
Aug. 3							
Top		13900	--	280	6.9	6.8	1.2
Bottom			22	283	7.1	--	--
Sept. 7							
Top		4150	--	248	6.7	1.6	2.0
Bottom			--	250	6.7	--	--

1-4770.5. DELAWARE RIVER AT CHESTER, PA.

LOCATION.--Lat 39°50'12", long 75°22'00", Water-quality recorder located at auxiliary tidal-gaging station at end of Reynolds Aluminum Company pier, 0.5 mile downstream from Chester Creek, in Chester, Delaware County.
DRAINAGE AREA.--10,300 square miles.
RECORDS AVAILABLE.--Chemical analyses: December 1961 to September 1967.
Water temperatures: December 1961 to September 1967.
EXTREMES, 1966-67.--Specific conductance: Maximum daily, 2,370 micromhos Oct. 16; minimum daily, 170 micromhos Apr. 6-8.
Dissolved oxygen: Maximum daily, 10 ppm Mar. 7, 10; minimum daily, 0.0 ppm on many days during year.
Water temperatures: Maximum, 86°F Aug. 3, 4; minimum, 35°F Mar. 2, 3, 7.
EXTREMES, 1961-67.--Specific conductance: Maximum daily, 5,900 micromhos Oct. 7, 1965; minimum daily, 124 micromhos Apr. 1, 2, 1963.
Dissolved oxygen: Maximum daily, 11.5 ppm Jan. 28, 29, 1964; minimum daily, 0.0 ppm on many days.
Water temperatures: Maximum, 86°F July 13, 14, 1966, Aug. 3, 4, 1967; minimum, freezing point on several days in 1965 and 1966.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
																Calcium, magnesium	Noncarbonate				
Dec. 12, 1966..	6540	6.4		0.02	0.10	26	9.0	31	4.9	22	81	40	0.5	11	246	102	84		394	6.0	5

1-4770.5. DELAWARE RIVER AT CHESTER, PA.--Continued

Specific conductance (micromhos at 25°C), dissolved oxygen, in parts per million, and temperature (°F) of water, water year October 1966 to September 1967

Day	OCTOBER									NOVEMBER								
	Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)			Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	1865	1030	1499	1.1	0.0	0.2	68	65	67	820	435	608	1.3	0.1	0.3	61	59	60
2	1955	1040	1395	0.7	0.0	0.2	66	65	65	990	445	637	3.2	0.0	1.0	62	59	61
3	1860	940	--	0.2	0.0	--	66	65	--	950	465	678	2.6	1.4	1.9	62	59	61
4	1520	830	1191	0.5	0.0	0.1	67	65	66	610	420	519	2.3	1.4	1.9	59	57	59
5	1480	820	1121	0.7	0.0	0.1	67	65	66	640	405	521	2.2	1.4	1.9	59	57	58
6	1180	720	951	1.4	0.0	0.5	65	65	65	630	415	521	2.5	1.6	1.9	58	56	57
7	1395	720	998	1.3	0.0	0.5	66	65	65	790	420	566	1.7	0.7	1.2	58	56	57
8	1305	740	939	1.3	0.1	0.6	66	64	65	730	450	593	--	--	--	58	56	57
9	1430	730	994	1.1	0.0	0.3	66	64	65	690	445	570	--	--	--	59	56	58
10	1565	780	1083	0.7	0.0	0.1	66	65	65	690	450	564	--	--	--	60	58	58
11	1750	810	1206	1.3	0.0	0.3	65	64	65	640	445	540	--	--	--	59	58	59
12	1690	830	1222	1.5	0.0	0.3	65	64	65	740	445	558	--	--	--	59	58	59
13	2110	900	1278	0.7	0.0	0.1	65	63	64	700	430	537	--	--	--	59	57	58
14	2110	990	1339	0.5	0.0	0.1	66	64	65	830	445	598	--	--	--	58	56	57
15	2140	940	1438	0.1	0.0	0.0	65	64	64	730	435	569	--	--	--	58	56	56
16	2375	1055	1511	0.2	0.0	0.0	65	63	64	810	445	584	--	--	--	57	55	56
17	2345	1040	1413	0.1	0.0	0.0	65	62	64	680	450	571	--	--	--	58	56	56
18	2250	950	1403	0.1	0.0	0.0	64	62	63	640	430	537	--	--	--	57	56	56
19	1795	600	1193	3.6	0.0	1.3	64	59	61	525	405	471	--	--	--	56	55	56
20	850	510	669	2.8	0.7	1.6	62	59	61	650	400	504	--	--	--	55	53	54
21	680	450	575	1.4	0.1	0.7	63	61	61	660	430	541	--	--	--	55	54	54
22	650	460	562	0.8	0.0	0.3	62	61	62	670	430	552	--	--	--	55	53	54
23	650	445	553	0.2	0.0	0.0	62	61	62	680	435	559	--	--	--	55	53	53
24	670	435	535	0.1	0.0	0.0	62	61	62	680	450	587	--	--	--	54	53	53
25	680	445	546	0.8	0.0	--	62	61	62	760	465	606	--	--	--	55	53	54
26	720	445	548	0.8	0.0	--	62	61	62	770	475	632	--	--	--	55	53	54
27	690	420	548	0.1	0.0	--	62	61	61	890	485	660	--	--	--	57	53	54
28	740	420	554	0.1	0.0	--	62	59	61	1710	510	794	--	--	--	55	53	54
29	700	430	554	0.1	0.0	--	62	61	61	890	445	633	--	--	--	54	52	53
30	610	415	504	0.0	0.0	--	61	59	60	750	430	564	--	--	--	54	54	--
31	760	435	580	1.0	0.0	0.4	65	59	61									

Day	DECEMBER									JANUARY								
1	575	415	494	--	--	--	--	--	--	325	315	321	7.3	5.7	6.3	41	39	40
2	525	375	453	1.9	1.0	--	52	50	--	325	315	320	6.8	5.3	5.8	41	40	40
3	435	370	406	2.3	0.9	1.4	50	46	49	325	315	320	6.2	4.7	5.3	41	40	40
4	465	355	411	2.2	1.3	1.6	48	47	47	345	315	324	6.1	4.4	4.9	41	40	41
5	475	365	423	1.9	1.1	1.4	49	47	48	330	315	325	5.6	4.3	4.9	42	40	41
6	445	365	410	2.0	0.9	1.3	49	47	48	342	305	328	6.1	4.4	5.0	41	39	40
7	475	365	417	1.7	0.6	1.0	50	47	48	338	313	329	5.6	4.1	4.8	40	39	40
8	465	365	420	1.4	0.1	0.7	49	48	49	333	308	325	6.2	4.0	4.9	41	39	40
9	460	365	415	1.4	0.0	0.2	50	49	49	325	289	309	7.0	4.3	5.3	42	39	40
10	465	365	430	5.2	0.0	0.5	52	49	50	321	300	309	5.9	4.0	4.9	41	40	40
11	465	355	411	1.9	0.0	0.5	51	49	50	321	304	313	5.9	4.1	4.9	41	40	40
12	430	355	388	1.6	0.0	0.6	50	49	49	325	304	315	6.0	4.5	5.2	41	39	40
13	485	355	401	1.9	0.1	0.8	49	47	49	325	304	315	5.8	4.5	5.1	41	39	40
14	525	350	413	3.1	1.1	1.8	49	47	48	325	304	318	5.4	4.2	4.7	41	40	41
15	465	345	386	2.8	1.6	2.1	48	46	47	321	300	314	5.5	4.0	4.6	43	40	41
16	435	340	385	2.6	1.6	2.0	48	46	47	321	293	306	5.5	4.0	4.6	43	40	41
17	430	330	379	2.5	1.6	2.0	48	46	47	317	293	305	5.5	4.1	4.6	43	40	41
18	395	340	365	2.4	1.4	1.8	48	46	47	321	296	305	6.1	4.1	4.9	42	40	41
19	365	325	349	2.8	1.0	1.8	47	46	--	317	300	310	5.6	4.4	5.0	41	39	40
20	400	325	363	2.5	1.5	2.0	--	--	--	329	304	315	6.2	4.3	4.9	42	40	40
21	385	325	351	3.5	2.0	2.4	--	--	--	325	304	317	5.7	4.4	5.1	42	40	40
22	385	330	356	2.9	1.7	2.2	46	44	--	329	308	320	6.2	4.4	5.0	42	40	41
23	355	320	342	3.0	1.7	2.1	46	43	45	325	308	318	5.3	4.1	4.6	44	40	42
24	350	315	331	3.2	1.5	2.3	44	39	42	329	308	319	5.3	3.9	4.4	44	41	43
25	341	305	--	3.5	3.0	--	41	39	--	333	313	323	4.6	3.5	3.9	44	42	43
26	--	--	--	--	--	--	--	--	--	333	308	324	4.3	3.1	3.6	45	43	44
27	315	300	--	6.0	5.2	--	43	40	--	333	304	319	5.8	3.2	4.3	45	44	44
28	350	305	320	6.3	4.7	5.4	43	40	41	325	282	304	6.8	4.4	5.4	44	43	44
29	355	315	330	8.5	5.1	6.2	43	37	40	308	282	295	8.3	5.7	6.8	44	41	42
30	330	305	320	8.8	6.4	7.5	41	38	39	293	261	280	9.8	7.1	8.4	43	41	42
31	325	315	319	8.2	5.9	7.1	41	38	41	289	254	271	9.8	8.3	9.0	44	41	42

1-4770.5. DELAWARE RIVER AT CHESTER, PA.--Continued

Specific conductance (micromhos at 25°C), dissolved oxygen, in parts per million, and temperature (°F) of water, water year October 1966 to September 1967--Continued

Day	FEBRUARY									MARCH								
	Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)			Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	275	250	264	9.5	8.4	8.8	44	41	42	317	296	304	--	--	--	--	--	--
2	264	244	258	9.2	8.2	8.6	44	42	43	317	293	305	7.3	7.0	--	36	35	--
3	257	231	245	9.4	8.8	9.0	44	41	42	317	300	--	7.3	6.4	--	42	35	--
4	257	233	246	9.4	8.0	8.5	43	41	42	--	--	--	--	--	--	--	--	--
5	250	233	242	8.6	7.7	8.1	43	41	42	--	--	--	--	--	--	--	--	--
6	269	225	237	8.5	7.7	--	43	41	42	321	300	--	8.1	6.7	--	39	38	--
7	239	228	234	--	--	--	41	38	39	304	228	274	10.0	7.3	8.3	39	35	37
8	239	222	235	--	--	--	40	37	38	279	242	256	9.7	6.8	8.2	39	37	38
9	239	225	232	--	--	--	40	37	38	264	236	245	9.7	7.4	--	40	37	39
10	242	231	235	--	--	--	39	37	38	257	236	243	10.0	8.6	9.2	41	38	40
11	279	231	248	--	--	--	38	37	38	257	242	251	9.1	8.3	8.7	43	40	41
12	250	233	244	--	--	--	38	37	37	247	239	243	8.6	7.9	8.3	44	40	42
13	247	233	241	--	--	--	38	35	37	250	233	244	8.2	7.3	7.7	44	42	43
14	254	242	246	7.3	5.3	--	40	37	38	244	231	240	7.6	6.7	7.1	49	43	44
15	261	244	252	7.2	6.1	6.5	40	38	39	239	228	235	--	--	--	--	--	--
16	261	254	258	6.2	6.0	--	40	40	--	242	231	235	--	--	--	--	--	--
17	268	257	262	--	--	--	--	--	--	242	228	236	--	--	--	--	--	--
18	268	264	266	--	--	--	--	--	--	250	233	239	--	--	--	--	--	--
19	279	268	272	--	--	--	--	--	--	242	233	237	--	--	--	--	--	--
20	286	275	281	--	--	--	--	--	--	244	231	237	8.0	7.1	--	43	41	--
21	300	289	291	--	--	--	--	--	--	247	231	241	8.3	7.2	7.6	43	40	42
22	296	289	293	--	--	--	--	--	--	244	233	237	8.0	7.1	7.6	43	41	42
23	304	289	298	--	--	--	--	--	--	--	--	--	7.9	7.1	7.6	43	41	42
24	304	293	298	--	--	--	--	--	--	242	236	244	--	--	--	--	--	--
25	304	293	299	--	--	--	--	--	--	249	242	254	--	--	--	--	--	--
26	304	293	299	--	--	--	--	--	--	254	242	249	--	--	--	--	--	--
27	308	293	299	--	--	--	--	--	--	250	239	247	--	--	--	--	--	--
28	313	300	306	--	--	--	--	--	--	247	242	245	--	--	--	--	--	--
29										247	239	244	7.4	5.9	6.8	45	43	44
30										254	239	244	7.4	6.1	6.6	46	43	44
31										254	239	243	6.8	5.9	6.4	47	44	46
	APRIL									MAY								
1	244	231	239	6.5	5.9	6.2	49	45	47	267	248	256	4.0	3.0	3.5	60	56	58
2	242	225	234	6.7	5.7	6.0	51	47	49	264	249	257	4.0	3.0	3.4	60	57	59
3	228	200	217	7.5	5.6	6.5	52	50	51	262	244	251	3.8	3.1	3.3	60	58	59
4	206	195	200	7.9	7.1	7.5	52	49	50	264	246	253	3.6	3.0	3.3	60	58	60
5	200	183	193	7.9	7.1	7.4	50	49	50	260	246	254	3.6	3.0	3.3	62	59	60
6	195	170	185	6.9	5.5	6.1	54	50	51	255	247	251	3.5	2.8	3.1	61	59	60
7	190	170	181	8.7	5.9	6.6	51	50	53	253	247	250	4.8	2.9	3.7	59	56	58
8	188	170	178	6.2	5.7	6.0	52	50	51	255	242	247	4.6	3.0	3.7	59	56	57
9	183	178	180	6.1	5.5	5.7	52	51	52	255	244	250	3.8	2.7	3.1	60	58	59
10	188	175	182	6.1	5.3	5.6	53	51	52	254	236	245	4.1	2.8	3.5	58	57	58
11	198	175	180	6.7	5.6	6.0	52	50	52	256	230	243	3.8	3.1	3.4	58	57	58
12	188	175	180	6.3	5.6	6.0	52	50	51	239	227	234	4.0	3.2	3.7	58	57	58
13	190	180	185	5.7	5.2	5.5	52	50	51	238	229	233	3.9	3.1	3.4	60	57	58
14	203	188	192	5.5	4.7	5.1	52	50	51	235	222	231	3.7	3.1	3.4	59	58	58
15	206	193	199	5.1	4.1	4.5	53	51	52	228	216	224	3.4	2.9	--	60	57	58
16	208	193	200	5.0	3.8	4.1	54	52	53	221	208	213	4.6	3.9	--	58	56	58
17	211	198	205	5.5	4.2	4.8	54	52	53	225	204	212	4.6	3.7	4.2	59	57	58
18	222	206	209	5.5	4.5	4.9	53	52	53	225	210	215	4.3	3.6	3.9	61	58	59
19	225	208	214	5.8	4.7	5.2	53	52	52	222	208	217	4.6	3.6	3.9	62	59	60
20	225	214	218	6.1	4.2	4.7	54	51	53	225	208	216	4.3	3.5	3.8	63	60	61
21	236	217	224	4.5	3.3	3.8	55	53	54	224	221	--	3.9	3.1	3.5	61	60	61
22	236	222	227	3.5	2.9	3.2	56	53	55	--	--	--	3.2	2.6	2.9	62	60	61
23	236	225	228	4.1	3.2	3.6	55	54	55	227	216	--	3.0	2.5	2.7	62	60	62
24	236	228	232	4.4	3.2	3.6	55	54	55	230	218	222	4.6	2.6	3.6	62	60	61
25	257	231	240	4.1	3.5	3.7	55	53	54	224	215	220	4.7	4.0	4.4	60	59	60
26	282	233	250	3.8	3.2	3.4	55	54	55	227	217	222	4.7	4.1	4.4	60	58	59
27	261	242	248	4.8	3.5	4.0	55	52	54	232	224	227	4.3	3.5	3.9	61	59	60
28	250	236	241	5.0	3.8	4.4	53	52	53	227	218	222	3.7	2.7	3.3	62	60	61
29	250	236	244	4.8	4.0	4.4	55	53	53	230	222	226	3.0	2.4	2.7	62	62	62
30	254	242	249	4.3	3.4	3.9	56	53	54	226	220	223	2.7	2.2	2.4	64	62	62
31										231	224	226	2.6	1.3	1.9	64	62	63

1-4770.5. DELAWARE RIVER AT CHESTER, PA.--Continued

Specific conductance (micromhos at 25°C), dissolved oxygen, in parts per million, and temperature (°F) of water, water year October 1966 to September 1967--Continued

Day	JUNE									JULY								
	Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)			Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	--	--	--				64	61	--	317	313	315	--	--	--	79	76	78
2	242	231	234				65	62	63	317	313	314	--	--	--	80	77	79
3	247	236	240				67	63	64	317	275	311	--	--	--	80	77	79
4	247	239	241				68	64	66	317	308	311	--	--	--	80	78	--
5	305	220	--				68	66	67	317	304	311	--	--	--	--	--	--
6	257	244	249				70	67	69	321	313	316	--	--	--	--	--	--
7	257	250	256				70	68	69	321	317	320	--	--	--	--	--	--
8	264	254	257				71	69	70	325	317	323	--	--	--	--	--	--
9	261	254	257				72	70	71	329	317	324	--	--	--	--	--	--
10	268	261	263				73	71	72	329	317	324	--	--	--	--	--	--
11	268	261	264				74	71	73	336	306	--	--	--	--	83	81	--
12	275	264	269				75	73	74	342	314	328	--	--	--	82	80	81
13	275	271	273				76	73	75	342	320	--	--	--	--	82	79	--
14	282	275	278				76	72	74	--	--	--	--	--	--	--	--	--
15	286	279	282				75	73	74	--	--	--	--	--	--	--	--	--
16	293	286	287				77	74	75	--	--	--	--	--	--	--	--	--
17	300	286	291				79	75	77	--	--	--	--	--	--	--	--	--
18	296	289	294				78	76	77	--	--	--	--	--	--	--	--	--
19	300	286	293				77	75	76	--	--	--	--	--	--	--	--	--
20	313	293	297				77	74	--	--	--	--	--	--	--	--	--	--
21	317	300	305				--	--	--	--	--	--	--	--	--	--	--	--
22	313	308	309				--	--	--	--	--	--	--	--	--	--	--	--
23	313	304	308				--	--	--	--	--	--	--	--	--	--	--	--
24	313	308	310				--	--	--	--	--	--	--	--	--	--	--	--
25	313	308	312				--	--	--	--	--	--	--	--	--	--	--	--
26	313	308	311				79	78	--	--	--	--	--	--	--	--	--	--
27	321	313	314				80	78	79	--	--	--	2.0	1.0	--	84	83	--
28	329	313	315				80	77	79	316	294	302	1.7	0.5	0.9	85	84	84
29	317	313	315				79	78	79	312	294	302	2.2	0.4	1.1	85	83	84
30	317	313	314				79	77	78	316	292	299	2.1	0.5	1.2	84	82	83
31										314	292	301	2.8	0.5	1.2	85	83	84
	AUGUST									SEPTEMBER								
1	306	294	303	3.2	0.6	1.3	85	82	84	286	272	278	1.6	0.4	1.0	80	77	78
2	320	306	308	3.4	0.6	1.5	85	83	84	286	272	281	2.0	0.7	1.2	79	76	77
3	328	306	311	3.1	0.8	1.4	86	84	85	290	274	283	2.2	0.6	1.2	--	--	--
4	306	286	296	2.9	1.3	2.0	86	83	85	290	276	282	1.6	0.4	1.0	--	--	--
5	312	286	299	2.1	0.9	1.5	85	82	84	294	272	282	1.1	0.2	0.5	--	--	--
6	312	272	290	2.8	0.5	1.4	84	81	83	292	274	282	--	--	--	--	--	--
7	--	--	--	2.8	0.6	1.7	84	82	83	292	272	282	--	--	--	77	76	76
8	304	264	281	2.1	1.2	1.7	84	83	84	288	270	278	--	--	--	77	76	77
9	284	254	271	2.8	1.0	1.7	84	82	83	286	270	278	--	--	--	78	76	77
10	278	244	257	2.8	1.4	2.1	85	80	82	290	272	280	--	--	--	78	76	77
11	286	246	262	1.7	1.3	1.5	82	81	81	322	282	290	2.2	0.5	--	78	76	--
12	278	260	269	1.5	0.9	1.2	82	80	81	330	292	309	2.7	0.2	1.1	--	--	--
13	274	256	265	1.4	0.9	1.1	81	79	80	350	298	315	2.4	0.2	1.1	--	--	--
14	270	240	--	1.5	0.7	1.0	80	77	78	364	284	318	2.6	0.2	0.8	--	--	--
15	272	240	253	1.3	0.6	0.9	79	78	--	364	312	330	1.8	0.0	0.8	--	--	--
16	254	240	250	1.4	0.4	0.9	--	--	--	456	312	362	2.2	0.8	1.6	72	71	72
17	262	236	246	0.8	0.4	--	--	--	--	428	312	347	3.1	1.1	1.8	73	71	72
18	252	238	246	--	--	--	--	--	--	392	312	343	2.2	0.6	1.1	73	71	72
19	250	226	239	--	--	--	--	--	--	366	314	340	--	--	--	--	--	--
20	258	228	238	--	--	--	--	--	--	378	330	354	--	--	--	--	--	--
21	242	228	235	--	--	--	--	--	--	486	340	386	--	--	--	--	--	--
22	244	236	238	--	--	--	--	--	--	414	320	359	--	--	--	--	--	--
23	256	236	247	--	--	--	--	--	--	400	344	370	--	--	--	--	--	--
24	258	246	252	--	--	--	80	78	--	442	352	391	--	--	--	--	--	--
25	256	240	247	--	--	--	79	76	78	410	346	372	1.3	0.0	--	--	--	--
26	246	238	243	--	--	--	78	76	77	432	354	386	1.9	0.2	0.9	--	--	--
27	238	202	229	--	--	--	78	76	77	434	364	396	2.7	0.6	1.3	--	--	--
28	280	216	244	--	--	--	78	77	77	568	364	411	2.3	0.5	1.4	--	--	--
29	294	266	278	--	--	--	78	77	77	448	344	386	2.2	0.5	1.5	72	70	72
30	282	272	275	--	--	--	78	77	78	414	334	371	1.7	0.0	0.7	74	71	72
31	282	266	274	--	--	--	79	77	78									

1-4772. DELAWARE RIVER AT MARCUS HOOK, PA.

LOCATION.--Lat 39°48'01", long 75°25'10", at center of river on a line from the water end of the Maritime Exchange reporting station pier through channel station +128.7 to vertical lift bridge over Oldmans Creek.
DRAINAGE AREA.--10,370 square miles.
RECORDS AVAILABLE.--Chemical analyses: August 1949 to September 1967.
REMARKS.--Samples collected approximately 3 feet from surface and 3 feet from bottom, respectively. Records of discharge are given for Delaware River at Trenton, N. J. Further information on this station is given in U.S. Geological Survey Water-Supply Paper 1809-O.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Lithium (Li)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Phosphate (PO_4)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color	Biochemical oxygen demand	Dissolved oxygen
Oct. 17, 1966																										
Top.....	2620	--	--	--	--	--	--	--	--		--	--	--	--	--	--		--	--	--	--	1380	6.6	--	0.5	9.0
Bottom.....		3.3	--	0.00	0.09	32	28	196	13		5	0	143	325	0.7	13		830	195	191	--	1370	6.6	2	--	--
Nov. 2																										
Top.....	2620	--	--	--	--	--	--	--	--		--	--	--	--	--	--		--	--	--	--	549	6.7	--	.7	6.6
Bottom.....		4.4	--	.01	.00	24	12	57	6.6		12	0	93	84	.4	14		322	110	100	--	545	6.6	2	--	--
Dec. 6																										
Top.....	5400	--	--	--	--	--	--	--	--		--	--	--	--	--	--		--	--	--	--	699	4.5	--	2.3	2.0
Bottom.....		11	0.5	.05	.50	31	18	108	8.8		0	0	128	180	.8	8.7		529	152	152	0.7	871	4.4	1	--	--
Jan. 5, 1967																										
Top.....	6750	--	--	--	--	--	--	--	--		--	--	--	--	--	--		--	--	--	--	384	4.0	--	4.9	3.5
Bottom.....		6.4	.1	.11	.20	24	8.2	31	4.0		0	0	92	49	.1	16		256	94	94	.2	403	3.9	5	--	--
Feb. 2																										
Top.....	14200	--	--	--	--	--	--	--	--		--	--	--	--	--	--		--	--	--	--	--	--	--	6.7	2.7
Bottom.....		5.8	--	.02	.00	21	6.8	17	2.8		17	0	62	22	.0	16		186	81	67	--	274	6.1	2	--	--
Mar. 9																										
Top.....	14900	--	--	--	--	--	--	--	--		--	--	--	--	--	--		--	--	--	--	251	6.9	--	6.7	5.8
Bottom.....		6.2	--	.00	.00	18	7.0	18	2.9		22	0	51	21	.2	13		160	74	66	--	247	6.7	5	--	--
Apr. 13																										
Top.....	14500	--	--	--	--	--	--	--	--		--	--	--	--	--	--		--	--	--	--	164	6.9	--	6.5	3.5
Bottom.....		4.9	--	.00	.00	12	4.2	10	1.5		14	0	35	10	.2	7.8		103	48	36	--	157	6.7	2	--	--
May 4																										
Top.....	10600	--	--	--	--	--	--	--	--		--	--	--	--	--	--		--	--	--	--	257	6.8	--	4.9	3.3
Bottom.....		4.4	.0	.00	.00	20	6.2	14	2.6		10	0	61	18	.4	12		164	76	68	--	251	6.7	5	--	--
June 8																										
Top.....	5290	--	--	--	--	--	--	--	--		--	--	--	--	--	--		--	--	--	--	247	6.8	--	1.4	.8
Bottom.....		4.5	--	.00	.00	18	6.0	14	2.5		18	0	51	16	.4	11		147	70	55	--	235	6.6	4	--	--
July 1																										
Top.....	6270	--	--	--	--	--	--	--	--		--	--	--	--	--	--		--	--	--	--	313	6.9	--	.7	6.8
Bottom.....		2.0	--	.17	.05	22	7.3	22	3.7		26	0	69	27	.0	11	0.25	180	85	64	--	301	6.4	13	--	--
Aug. 3																										
Top.....	13900	--	--	--	--	--	--	--	--		--	--	--	--	--	--		--	--	--	--	306	6.4	--	1.1	4.2
Bottom.....		.4	--	.00	.01	22	7.8	22	3.5		27	0	63	28	.5	12		210	87	65	--	302	6.2	1	--	--
Sept. 7																										
Top.....	4150	--	--	--	--	--	--	--	--		--	--	--	--	--	--		--	--	--	--	266	6.8	--	3.6	3.1
Bottom.....		5.3	--	.14	.02	21	6.8	15	3.8		38	0	49	18	.2	11		153	81	50	--	255	6.8	6	--	--

1-4806.5. EAST BRANCH BRANDYWINE CREEK AT CUPOLA, PA.

LOCATION.--Lat 40°05'55", long 75°50'44", at gaging station on right bank 5 feet downstream from bridge on Legislative Route 15145 at Cupola, Chester County, and 5 miles southeast of Morgantown. Sediment samples collected at the bridge.
DRAINAGE AREA.--6.20 square miles.
RECORDS AVAILABLE.--Sediment records: January to September 1967 (periodic).
REMARKS.--Records of specific conductance, pH, and temperature of sediment samples available in the WRD office at Harrisburg, Pa. Flow affected by ice Jan. 2-5, 18-21, Feb. 7-15, and Feb. 23 to Mar. 3.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Total acidity as H^+	Specific conductance (micromhos at 25°C)	pH	Color
																Calcium, magnesium	Noncarbonate				
Mar. 7, 1967...	157	4.9		0.00	0.00	8.0	2.7	3.0	4.3	17	17	4.9	0.2	4.2	71	31	17		96	6.8	17
Mar. 29.....	13	13		.02	.00	14	4.4	7.0	3.1	32	23	11	.0	4.9	102	53	27		149	7.2	2
May 9.....	8.5	16		.00	.00	15	4.7	6.3	1.6	37	19	14	.2	5.8	111	57	27		141	7.2	14
July 13.....	2.7	24		.66	.01	14	3.8	7.0	2.1	49	10	9.0	.2	6.3	108	51	11		145	7.1	15

1-4806.5. EAST BRANCH BRANDYWINE CREEK AT CUPOLA, PA.--Continued

Periodic determinations of suspended- sediment discharge, water year October 1966 to September 1967
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;
P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Jan. 27, 1967.....	1600	--		135	1470	536												
Jan. 27.....	1755	--		154	595	247												
Feb. 5.....	1425	40		7.9	5	.1												
Feb. 14.....	1630	33		5.0	5	.1												
Feb. 15.....	0755	35		6.2	3	.1												
Feb. 15.....	1730	42		21	16	.9												
Feb. 22.....	0615	30		6.8	5	.1												
Feb. 22.....	1650	33		6.8	5	.1												
Feb. 22.....	2115	32		7.9	5	.1												
Mar. 1.....	0610	32		4.3	5	.1												
Mar. 1.....	1655	35		5.5	6	.1												
Mar. 1.....	2030	32		5.8	4	.1												
Mar. 6.....	0955	35		29	86	6.7												
Mar. 6.....	1400	37		80	343	74												
Mar. 6.....	1610	38		89	324	78												
Mar. 7.....	1400	34		105	169	48												
Mar. 7.....	1555	38		76	122	25												
Mar. 7.....	1905	37		52	60	8.4												
Mar. 7.....	2030	36		40	49	5.3												
Mar. 8.....	0610	33		15	19	.8												
Mar. 8.....	1610	42		15	14	.6												
Mar. 15.....	1600	32		17	25	1.1												
Mar. 15.....	2200	32		14	25	.9												
Mar. 22.....	1300	40		9.3	5	.1												
Mar. 22.....	1630	43		9.6	4	.1												
Mar. 22.....	1915	44		12	8	.3												
Mar. 29.....	0615	45		18	17	.8												
Mar. 29.....	1015	45		20	28	1.5												
Mar. 29.....	1545	52		13	13	.5												
Apr. 5.....	0700	50		5.5	4	.1												
Apr. 5.....	2200	47		6.5	2	T												
Apr. 12.....	1400	52		4.8	3	T												
Apr. 12.....	1600	54		5.3	4	.1												
Apr. 12.....	2200	50		5.0	8	.1												
Apr. 17.....	1745	50		8.2	8	.2												
Apr. 19.....	0600	46		5.8	6	.1												
Apr. 19.....	1550	52		5.8	4	.1												
Apr. 19.....	1840	50		5.0	5	.1												
Apr. 26.....	1605	50		4.8	4	.1												
Apr. 26.....	1910	50		5.8	5	.1												
Apr. 26.....	2030	50		7.6	9	.2												
Apr. 27.....	1615	46		46	42	5.2												

T Less than 0.05 ton.

1-4806.5. EAST BRANCH BRANDYWINE CREEK AT CUPOLA, PA.--Continued

Periodic determinations of suspended- sediment discharge, water year October 1966 to September 1967--Continued
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
May 3, 1967	1610	65		8.6	12	0.3												
May 3	1805	55		7.2	15	.3												
May 3	2200	60		6.8	11	.2												
May 11	1955	51		28	58	4.4												
May 11	2250	51		21	50	2.8												
May 15	1910	60		9.6	10	.3												
May 17	1650	59		6.2	13	.2												
May 17	1800	59		5.8	15	.2												
May 17	2000	58		5.0	16	.2												
May 17	2200	56		5.0	14	.2												
May 24	1630	58		4.3	11	.1												
May 24	1800	57		4.5	11	.1												
May 24	2000	56		4.0	11	.1												
May 29	1110	58		5.8	19	.3												
May 29	1200	58		7.2	23	.4												
June 8	0700	65		3.6	22	.2												
June 8	1505	75		3.4	24	.2												
June 8	1710	75		3.6	22	.2												
June 8	1900	74		3.6	19	.2												
June 15	0605	64		3.6	41	.4												
June 15	1500	76		3.1	25	.2												
June 15	1900	75		2.9	28	.2												
June 21	1010	67		3.1	23	.2												
June 21	1200	75		3.1	23	.2												
June 21	1800	77		2.7	22	.2												
June 29	0935	63		2.7	62	.4												
June 29	1105	63		2.7	64	.5												
June 29	1300	63		2.7	59	.4												
June 29	1500	64		2.7	48	.3												
July 6	0925	63		2.9	47	.4												
July 6	1115	65		2.9	43	.3												
July 6	1300	73		2.9	38	.3												
July 6	1500	72		2.9	37	.3												
July 13	0610	70		3.1	56	.5												
July 13	0810	70		3.4	57	.5												
July 13	1200	74		3.4	50	.5												
July 19	0725	66		2.7	44	.3												
July 19	0900	68		2.7	39	.3												
July 19	1100	70		2.7	50	.4												
Aug. 2	0610	68		2.2	49	.3												
Aug. 2	1510	80		2.0	23	.1												
Aug. 2	1700	80		1.9	29	.2												

T Less than 0.05 ton.

1-4806.5. EAST BRANCH BRANDYWINE CREEK AT CUPOLA, PA.--Continued

Periodic determinations of suspended- sediment discharge, water year October 1966 to September 1967--Continued
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Aug. 3, 1967.....	1020	72		4.5	41	0.5												
Aug. 3.....	1130	72		8.2	110	2.4												
Aug. 4.....	0945	--		11	72	2.1												
Aug. 4.....	1045	--		10	69	1.9												
Aug. 4.....	1145	71		9.3	69	1.7												
Aug. 4.....	1245	71		9.0	68	1.6												
Aug. 4.....	1345	--		8.6	72	1.7												
Aug. 4.....	1615	75		7.9	59	1.2												
Aug. 4.....	1745	75		7.6	60	1.2												
Aug. 10.....	0855	70		6.2	51	.8												
Aug. 10.....	1515	76		5.0	33	.4												
Aug. 10.....	1700	76		4.5	32	.4												
Aug. 10.....	1900	75		4.0	33	.4												
Aug. 23.....	0755	66		2.5	30	.2												
Aug. 23.....	1455	68		2.0	15	.1												
Aug. 23.....	1655	68		1.9	14	.1												
Aug. 23.....	1900	65		1.6	16	.1												
Aug. 25.....	0800	61		11	47	1.4												
Aug. 25.....	1000	61		11	53	1.6												
Aug. 25.....	1200	61		8.6	41	1.0												
Aug. 31.....	0600	71		1.5	18	.1												
Aug. 31.....	0800	61		1.5	18	.1												
Aug. 31.....	1600	70		1.0	15	T												
Aug. 31.....	1810	65		.9	31	.1												
Sept. 6.....	0720	60		.8	24	.1												
Sept. 6.....	1650	75		.8	14	T												
Sept. 6.....	1950	72		.8	16	T												
Sept. 6.....	2100	68		1.0	21	.1												
Sept. 21.....	1710	67		.9	11	T												
Sept. 21.....	1900	66		1.0	11	T												
Sept. 27.....	0625	55		.6	17	T												
Sept. 27.....	1735	69		.7	12	T												
Sept. 27.....	1935	67		.7	12	T												

T Less than 0.05 ton.

1-4810. BRANDYWINE CREEK AT CHADDS FORD, PA.

LOCATION.--Lat 39°52'10", long 75°35'35", at gaging station located on left bank 27 feet upstream from Pennsylvania Railroad bridge at Chadds Ford, Delaware County, and 1,200 feet downstream from highway bridge on U.S. Highway 1. Sediment samples collected at U.S. Highway 1 Bridge.
DRAINAGE AREA.--287 square miles.
RECORDS AVAILABLE.--Water temperatures: October 1964 to September 1967.
Sediment records: July 1963 to September 1967.
EXTREMES, 1966-67.--Specific conductance: Maximum daily, 270 micromhos Oct. 14; minimum daily, 122 micromhos Aug. 10.
Water temperatures: Maximum, 80°F June 15; minimum, freezing point on many days during December and January.
Sediment concentrations: Maximum daily, 990 ppm Mar. 7; minimum daily, 1 ppm on many days in November, December and January.
Sediment loads: Maximum daily, 14,000 tons Mar. 7; minimum daily, less than 0.50 ton Nov. 17, 20-25, 27, and Dec. 8-10.
EXTREMES, 1963-67.--Specific conductance (June 1966-67): Maximum daily, 285 micromhos Sept. 2 and Sept. 5, 1966; minimum daily, 122 micromhos Aug. 10, 1967.
Water temperatures (1964-67): Maximum, 84°F Aug. 9, 17, 1965; minimum, freezing point on many days during winter months.
Sediment concentrations: Maximum daily, 2,000 (estimated) ppm Feb. 8, 1965; minimum daily, 1 ppm on many days in 1964 and 1967.
Sediment loads: Maximum daily, 20,000 (estimated) tons Feb. 8, 1965; minimum daily, less than 0.50 ton on many days in 1966-67.
REMARKS.--Records of specific conductance, pH, and temperature of sediment samples available in the WRD office at Harrisburg, Pa. Flow affected by ice Jan. 19-22, Feb. 7-14, Feb. 23 to Mar. 3.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
Feb. 14, 1967..	290	13		0.00	0.00	19	6.0	10	2.3	49	24	15	0.1	9.0	133	72	32		201	7.5	1
Mar. 8.....	1630	8.4		.10	.00	12	4.6	6.5	3.4	24	24	11	.2	8.5	101	49	30		147	7.4	7
May 10.....	496	--		--	--	--	--	A10	--	44	25	12	--	6.1	--	62	--		174	6.7	3
June 15.....	187	12		.00	.00	17	7.0	10	2.5	61	22	12	.1	6.6	131	72	22		194	7.8	5
July 17.....	220	12		.02	.01	17	6.8	7.5	3.1	57	21	13	.0	7.4	125	71	24		190	7.5	6
Aug. 15.....	265	12		.00	.00	18	7.0	9.5	2.8	59	22	12	.2	7.1	125	74	26		195	7.5	7
Sept. 15.....	187	11		.02	.00	18	6.9	11	2.6	60	23	13	.3	7.6	134	74	25		211	7.4	4

A Calculated Na plus K, reported as Na.

1-4810. BRANDYWINE CREEK AT CHADDS FORD, PA.--Continued

Specific conductance (micromhos at 25°C), water year October 1966 to September 1967

Day	October	November	December	January	February	March	April	May	June	July	August	September
1.....	219	238	210	208	198	208	193	191	205	209	215	220
2.....	200	239	215	209	199	209	192	190	203	198	217	222
3.....	199	240	233	208	203	208	191	190	205	162	180	220
4.....	228	240	229	206	200	206	190	189	207	156	149	223
5.....	225	240	226	213	200	191	192	195	203	165	130	225
6.....	254	236	222	215	192	197	200	192	206	189	170	210
7.....	260	236	220	221	211	124	191	174	207	196	189	217
8.....	262	236	210	229	210	168	198	160	199	200	200	221
9.....	262	236	230	176	198	186	196	180	200	191	208	220
10.....	259	237	229	196	200	190	193	182	205	192	122	212
11.....	259	234	228	204	205	192	200	182	207	147	163	210
12.....	266	237	225	208	212	200	200	186	204	170	191	220
13.....	265	234	230	210	--	192	203	181	203	187	199	222
14.....	270	233	230	210	219	198	196	179	208	200	203	220
15.....	264	242	212	217	205	196	192	192	209	202	209	222
16.....	262	241	208	193	191	197	191	197	205	204	210	192
17.....	260	238	218	199	188	215	192	198	209	200	210	210
18.....	260	239	--	209	222	225	190	199	181	200	209	220
19.....	198	240	--	218	210	211	191	195	204	214	184	228
20.....	190	240	--	230	202	203	200	190	210	212	--	218
21.....	220	231	--	218	206	202	201	191	177	211	--	211
22.....	244	230	--	214	210	220	197	190	168	210	--	175
23.....	240	236	--	205	209	221	191	194	200	212	--	227
24.....	240	235	--	200	211	209	192	200	189	210	--	215
25.....	243	228	--	194	215	211	190	199	195	221	--	210
26.....	240	220	215	194	206	193	192	197	200	220	--	218
27.....	239	229	200	198	205	200	189	197	208	210	--	210
28.....	238	231	--	157	204	194	170	192	209	199	--	218
29.....	235	176	--	180	--	190	178	192	216	200	172	216
30.....	234	191	--	190	--	195	190	193	211	195	194	210
31.....	237	--	--	196	--	200	--	190	--	210	212	--
Average	241	232	--	204	204	198	192	189	201	196	--	215

Temperature (°F) of water, water year October 1966 to September 1967

MONTH	DAY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER..	--	--	--	--	--	60	60	60	60	67	61	59	59	59	58	58	56	55	54	56	54	54	53	54	53	55	54	54	54	53	53	56
NOVEMBER.	53	52	52	52	51	50	50	51	49	49	51	55	53	53	51	50	50	58	48	47	46	46	47	48	47	49	48	46	47	45	--	49
DECEMBER.	44	39	36	32	33	32	32	32	32	32	--	--	--	32	32	32	32	--	--	--	--	--	--	--	--	--	32	32	32	--	--	--
JANUARY..	39	39	38	38	39	37	35	40	38	38	36	37	37	39	42	40	38	38	32	34	35	33	41	45	48	50	47	43	37	33	35	38
FEBRUARY.	--	41	41	42	40	38	34	34	33	34	35	33	32	38	40	38	34	38	37	35	36	38	38	35	32	32	32	34	--	--	--	36
MARCH....	33	34	38	40	38	40	35	36	42	42	43	44	45	47	42	42	43	42	41	39	38	39	39	40	47	47	48	50	52	52	53	42
APRIL....	58	60	60	61	59	59	56	56	55	56	54	54	54	58	58	58	56	54	52	--	--	--	--	--	--	52	48	51	50	50	--	55
MAY.....	--	--	53	54	53	52	50	52	54	52	52	53	54	52	55	56	56	54	55	58	57	58	60	60	56	58	58	64	63	64	64	56
JUNE.....	--	66	66	66	68	70	71	73	74	76	76	77	79	78	80	76	76	78	77	--	75	--	74	76	77	76	74	--	78	75	--	74
JULY.....	70	70	75	71	70	70	71	72	--	71	73	74	74	75	--	75	--	74	75	--	76	--	--	79	--	--	79	--	74	74	--	--
AUGUST...	72	--	--	--	75	--	73	--	73	73	--	--	71	71	72	72	73	73	--	--	--	--	--	--	--	--	--	--	72	72	--	--
SEPTEMBER	68	68	67	68	68	65	69	69	--	--	70	70	70	--	71	--	--	70	70	--	70	70	65	66	--	68	67	67	66	--	--	--

1-4810. BRANDYWINE CREEK AT CHADDS FORD, PA.--Continued

Suspended sediment, water year October 1966 to September 1967
(Where no daily concentrations are reported, loads are estimated)

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	208	8	4	110	2	1	216	10	6
2	425	18	21	138	3	1	185	8	4
3	216	15	9	208	4	2	166	6	3
4	163	14	6	174	3	1	142	4	2
5	144	14	5	148	3	1	152	2	1
6	130	8	3	148	3	1	161	2	1
7	120	6	2	141	2	1	164	2	1
8	116	4	1	141	2	1	164	1	T
9	113	4	1	138	2	1	158	1	T
10	113	4	1	141	4	2	155	1	T
11	107	6	2	163	6	3	190	5	2
12	107	5	1	163	6	3	181	4	2
13	107	8	2	152	4	2	166	3	1
14	103	6	2	141	4	2	238	5	3
15	103	6	2	134	3	1	249	6	4
16	116	7	2	130	2	1	217	3	2
17	116	7	2	130	1	T	203	1	1
18	110	10	3	134	2	1	214	2	1
19	1040	230 S	780	134	2	1	237	3	2
20	796	84 S	230	130	1	T	221	3	2
21	312	15	13	124	1	T	222	3	2
22	180	7	3	124	1	T	202	3	2
23	140	5	2	120	1	T	189	3	2
24	120	5	2	124	1	T	176	2	1
25	130	7	2	127	1	T	154	2	1
26	120	6	2	152	2	1	264	5	4
27	120	6	2	144	1	T	241	3	2
28	120	4	1	282	20 S	30	251	4	3
29	120	4	1	766	78 S	190	637	--	100
30	110	3	1	304	17	14	705	--	100
31	110	2	1	--	--	--	431	6	7
TOTAL	6035	--	1109	5165	--	264	7251	--	263

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	348	4	4	402	10	11	180	5	2
2	323	2	2	404	8	9	180	3	1
3	313	1	1	430	9	10	230	4	2
4	298	1	1	375	5	5	311	3	2
5	293	3	2	368	3	3	375	3	3
6	260	2	1	346	3	3	796	20 S	49
7	249	3	2	200	3	2	5170	990 S	14000
8	548	--	30	240	4	2	1630	140 S	740
9	937	--	200	280	4	3	905	27	66
10	485	10	13	290	3	2	740	18	36
11	365	7	7	290	3	2	666	16	29
12	316	5	4	280	3	2	607	13	21
13	297	4	3	250	2	1	549 C	9	13
14	329	5	4	290	2	2	539 C	9	13
15	436	17	20	347	4	4	622 C	9	15
16	475	14	18	684	24	44	695	12	22
17	360	--	10	515	15	21	617	10	17
18	336	7	6	389	6	6	515	8	11
19	210	6	3	346	6	6	457 C	5	6
20	190	4	2	347	6	6	462 C	5	6
21	200	2	1	379	7	7	496 C	7	9
22	250	4	3	350	6	6	563 C	7	11
23	324	6	5	330	6	5	592 C	7	11
24	421	8	9	280	4	3	583 C	13	20
25	419	10	11	140	2	1	622 C	13	22
26	374	8	8	180	6	3	525 C	13	18
27	880	--	200	190	6	3	467 C	6	8
28	1490	370 B	1500	190	6	3	443 C	6	7
29	645	65	110	--	--	--	568	8	12
30	463	17	21	--	--	--	515	8	11
31	410	12	13	--	--	--	438	8	9
TOTAL	13244	--	2214	9112	--	175	22058	--	15192

S Computed by subdividing day.
T Less than 0.50 ton.
B Computed from estimated-concentration graph.
C Composite period.

1-4810. BRANDYWINE CREEK AT CHADDS FORD, PA.--Continued

Suspended sediment, water year October 1966 to September 1967--Continued
(Where no daily concentrations are reported, loads are estimated)

	APRIL				MAY				JUNE			
DAY	MEAN DISCHARGE (CFS)		MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)		MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)		MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	414		8	9	340		10	9	265		7	5
2	405	C	11	12	349		10	9	248	C	6	4
3	391	C	11	12	438		12	14	240	C	6	4
4	363	C	11	11	372		8	8	228	C	6	4
5	367		16	16	335		8	7	224	C	6	4
6	377		19	19	367		12	12	217		6	4
7	617		22	37	880		84 S	320	213		6	3
8	481		8	10	1020		120 S	360	205		6	3
9	400	C	2	2	661		33	59	201		6	3
10	386	C	2	2	496		8	11	197		5	3
11	358	C	2	2	544	C	12	18	194		5	3
12	335	C	2	2	690	C	12	22	187		4	2
13	331	C	2	2	472	C	12	15	179		4	2
14	340	C	2	2	438	C	12	14	179		3	1
15	335	C	2	2	486		21	28	187		5	2
16	322	C	2	2	563		25	38	187		6	3
17	335		4	4	424		12	14	176		5	2
18	448		8	10	386		10	10	176		5	2
19	358	C	3	3	381		10	10	286		12	9
20	317	C	3	2	410		12	13	217		10	6
21	304	C	3	2	349		10	9	183		10	5
22	326	C	3	3	349	C	10	9	190		13	7
23	313	C	3	2	335	C	10	9	840		--	100
24	331	C	2	2	317		8	7	300		23	19
25	335	C	2	2	308	C	6	5	217		10	6
26	313		7	6	300	C	6	5	187		30	15
27	950		76 S	220	286	C	6	5	169		26	12
28	725		41 S	88	278	C	6	4	162		14	6
29	429		10	12	326	C	6	5	158		18	8
30	367		10	10	405		10	11	291		33	26
31	--		--	--	300		8	6	--		--	--
TOTAL	12073		--	508	13605		--	1066	6903		--	273

	JULY				AUGUST				SEPTEMBER			
DAY	MEAN DISCHARGE (CFS)		MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)		MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)		MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	253		26	18	228		10	6	265		14	10
2	201		6	3	197		8	4	248		13	9
3	845		--	100	274		12	9	240		13	8
4	313		--	50	1430		--	2000	236		12	8
5	248		50	33	1610		--	3000	228		12	7
6	201		28	15	617		34	57	220		12	7
7	187		25	13	367		30	30	217		11	6
8	179		25	12	322		27	23	213		11	6
9	197		30	15	391		50	53	209		10	6
10	429		--	50	1400		--	1000	232		12	8
11	1020		670 S	2200	477		--	60	217		11	6
12	549		180	270	344		27	25	201		10	5
13	278		65	49	304		23	19	197		10	5
14	236		50	32	291		20	16	194		10	5
15	253		30	20	265		18	13	187		10	5
16	265		32	23	248		18	12	190		10	5
17	220		30	18	240		16	10	197		10	5
18	201		20	11	236		14	9	190		10	5
19	201		20	11	228		12	7	187		10	5
20	190		20	10	313		--	20	179		10	5
21	209		27	15	261		16	11	232		--	20
22	220		12	7	248		13	9	568		--	100
23	190		10	5	228		10	6	217		20 B	12
24	176		10	5	248		12	8	205		10	6
25	217		18	10	720		--	200	205		9	5
26	190		16	8	433		--	30	187		8	4
27	165		14	6	795		--	300	183		8	4
28	165		14	6	830		--	300	194		8	4
29	187		28	14	429		18	21	377		--	30
30	1080		--	2000	331		18	16	253		9	6
31	291		14	11	295		16	13	--		--	--
TOTAL	9546		--	5040	14600		--	7287	6868		--	317

TOTAL DISCHARGE FOR YEAR (CFS-DAYS).....126460
TOTAL LOAD FOR YEAR (TONS).....33708

S Computed by subdividing day.
B Computed from estimated-concentration graph.
C Composite period.

1-4810. BRANDYWINE CREEK AT CHADDS FORD, PA.--Continued

Particle-size analyses of suspended sediment, water year October 1966 to September 1967
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Mar. 7, 1967	1725	35		7260	690			54	70	83	86	89	90	94	99	99	100	SCPW
July 3	1300	75		1380	276			40	62	84	90	97	100	--				SCPW
July 11	0620	73		1820	646			43	64	83	90	96	99	100				SCPW

1-4815. BRANDYWINE CREEK AT WILMINGTON, DEL.

LOCATION.--Lat 39°46'10", long 75°34'20", at gaging station on right bank 0.2 mile downstream from Henry Clay Bridge, in Wilmington, New Castle County, and 4.2 miles upstream from mouth. Sediment samples are collected at the Henry Clay Bridge.
DRAINAGE AREA.--314 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1947 to September 1950, November 1951 to September 1952, October 1956 to September 1967.
Water temperatures: November 1956 to September 1961.
Sediment records: December 1946 to September 1961, July 1962 to September 1967.
EXTREMES,1966-67.--Sediment concentrations: Maximum daily, 1,110 ppm Mar. 7; minimum daily, 2 ppm Nov. 22-24.
Sediment loads: Maximum daily, 19,000 tons Mar. 7; minimum daily, 1 ton Nov. 18-25, 27.
EXTREMES, 1946-61, 1962-67.--Water temperatures (1956-61): Maximum, 86°F June 17, 1957; minimum, freezing point on many days during winter months.
Sediment concentrations: Maximum daily, 1,700 ppm Feb. 14, 1966; minimum daily, 1 ppm on many days.
Sediment loads: Maximum daily, 33,000 tons Feb. 14, 1966; minimum daily, less than 0.50 ton on many days.
REMARKS.--The stage discharge relation was affected by ice Dec. 24, 29. Published and unpublished chemical-quality data and specific conductance, pH, and temperature of sediment samples available in the WRD District office at Towson, Md. Streamflow records for water year October 1966 to September 1967 available in the WRD subdistrict office at Dover, Del.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^+	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 26, 1966	191	13		0.00	0.00	20	6.5	11	3.4	60	29	13	0.3	7.8	144	77	28		213	7.4	9
Nov. 30	382	--		--	--	--	--	A12	--	46	29	12	--	7.2	141	64	27		192	6.8	2
Jan. 5, 1967	367	18		.00	.00	19	6.5	12	2.5	56	26	15	.2	5.0	151	74	28		209	7.6	2
Jan. 30	537	13		.00	.00	16	6.0	8.0	2.8	40	26	12	.1	9.0	118	65	32		176	7.4	7
Feb. 27	356	14		.01	.00	19	7.5	11	2.3	59	27	15	.2	10	141	79	30		213	7.4	3
Mar. 29	640	9.1		.00	.00	16	5.2	8.2	2.0	42	24	11	.2	7.6	111	62	27		174	6.9	2
Apr. 24	407	6.2		.00	.00	16	6.5	7.0	2.0	47	22	12	.2	7.2	118	67	28		176	7.1	3
June 26	224	16		.00	.00	18	6.0	11	3.2	58	24	12	.3	7.5	154	70	22		186	6.7	7
July 27	178	13		.00	.00	18	6.7	12	2.7	66	23	12	.3	6.1	134	73	19		205	7.0	6
Aug. 29	560	15		.02	.00	16	5.6	7.8	3.5	54	19	9.5	.2	5.7	112	63	19		198	6.7	15
Sept. 25	200	14		.13	.00	17	6.5	10	3.8	58	23	12	.3	7.6	125	69	22		201	7.6	7
Sept. 27	169	12		.01	.00	19	6.5	11	2.9	61	24	13	.1	7.6	144	74	24		208	6.5	1

A Calculated Na plus K, reported as Na.

1-4815. BRANDYWINE CREEK AT WILMINGTON, DEL.--Continued

Suspended sediment, water year October 1966 to September 1967
(Where no daily concentrations are reported, loads are estimated)

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	241	--	10	136	7	2	260	30	21
2	485	--	50	134	7	2	217	19	11
3	276	--	20	181	10	5	191	12	6
4	191	14	7	160	7	3	156	10	4
5	169	11	5	138	6	2	170	10	4
6	149	9	4	135	5	2	178	10	5
7	135	9	3	133	5	2	183	10	5
8	130	9	3	130	5	2	183	10	5
9	127	9	3	130	5	2	178	10	5
10	128	9	3	133	5	2	170	10	4
11	125	9	3	150	7	3	208	12	7
12	120	8	3	153	7	3	208	12	7
13	119	7	2	144	7	3	187	11	6
14	117	7	2	133	6	2	265	12	8
15	117	7	2	129	5	2	304	10	8
16	126	7	2	124	5	2	260	9	6
17	129	7	2	123	5	2	233	9	6
18	126	7	2	122	4	1	244	8	5
19	1610	170 S	900	123	4	1	272	8	6
20	1050	140 S	480	121	3	1	265	7	5
21	411	22	24	120	3	1	260	7	5
22	280	14	10	118	2	1	249	7	5
23	225	10	6	119	2	1	223	7	4
24	205	10	6	118	2	1	183	6	3
25	197	9	5	119	3	1	136	5	2
26	191	8	4	135	5	2	272	5	4
27	180	7	3	134	4	1	298	5	4
28	170	7	3	225	7 B	4	238	4	2
29	166	7	3	785	80 A	170	580	--	90
30	158	7	3	382	37	38	766	--	200
31	152	7	3	--	--	--	487	--	50
TOTAL	8005	--	1576	4987	--	264	8024	--	503

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	440	12 B	14	476	10	13	317	5	4
2	409	10 B	11	471	9	11	304	5	4
3	394	10 B	11	499	9	12	343	5	5
4	374	10 B	10	457	8	10	362	5	4
5	367	10	10	445	8	10	434	10	12
6	329	12	11	424	8	9	725	20 B	39
7	312	12	10	334	7	6	5110	1100 S	18000
8	585	50 B	79	353	18 A	17	2660	250 S	2500
9	1000	100 A	270	425	23 A	26	1080	75	220
10	583	18	28	444	8	10	926	24	60
11	457	12	15	429	7	8	814	23	50
12	399	8	9	444	5	7	732	20	40
13	371	7	7	350	4	4	650	18	32
14	403	7	8	377	4	4	635	16	28
15	432	8	11	435	6	7	723	10	8
16	546	8	12	579	21	38	802	30	65
17	448	5	7	502	13	21	714	13	25
18	416	5	7	475	8	10	621	10	17
19	330	5	5	486	7	8	559	10	15
20	333	5	5	430	7	8	568	10	15
21	349	5	6	462	7	9	587	10	16
22	343	5	6	438	7	8	667	10	18
23	385	7	7	441	8	10	586	10	18
24	481	23	30	416	6	7	677	10	18
25	494	8	11	301	4	3	702	12	23
26	458	3	4	310	--	4	620	10	17
27	906	320 B	780	356	--	7	571	10	15
28	1740	750 S	4000	356	6	6	546	10	15
29	702	90	170	--	--	--	640	13	22
30	537	16	23	--	--	--	628	12	20
31	482	12	16	--	--	--	542	8	12
TOTAL	15870	--	5593	12054	--	293	26964	--	22370

S Computed by subdividing day.
A Computed from partly estimated-concentration graph.
B Computed from estimated-concentration graph.

1-4815. BRANDYWINE CREEK AT WILMINGTON, DEL.--Continued

Suspended sediment, water year October 1966 to September 1967--Continued
(Where no daily concentrations are reported, loads are estimated)

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	515	8	11	425	7	8	343	13	12
2	507	8	11	426	7	8	321	12	10
3	496	8	11	507	11	15	305	10	8
4	464	8	10	459	10	12	289	9	7
5	466	8	10	411	8	9	279	9	7
6	482	8	10	420	8	9	268	9	6
7	703	110 S	220	935	60 S	220	261	10	7
8	579	45	70	1370	110 S	410	249	12	8
9	490	34	45	789	29	62	243	12	8
10	469	30	38	598	18	29	235	12	8
11	444	26	31	594	14	22	223	10	6
12	415	16	18	782	23	48	210	9	5
13	407	12	13	560	15	23	201	9	5
14	414	10	11	516	11	15	195	10	5
15	417	8	9	538	11	16	204	11	6
16	404	6	6	640	17	29	207	11	6
17	402	7	8	510	16	22	192	11	6
18	534	10	14	466	16	20	190	10	5
19	452	8	10	452	15	18	359	--	20
20	401	6	6	484	15	20	272	18	13
21	381	5	5	423	14	16	211	15	8
22	399	6	6	417	13	15	210	12	7
23	400	6	6	415	13	14	813	50 A	110
24	407	6	6	388	14	15	417	36	40
25	429	6	7	377	15	15	261	25	18
26	396	6	6	371	14	14	224	21	13
27	1010	36 S	120	361	13	13	192	18	9
28	891	46 S	120	350	13	12	182	17	8
29	531	11	16	379	14	14	178	16	8
30	460	8	10	502	16	22	312	35 A	29
31	--	--	--	392	14	15	--	--	--
TOTAL	14765	--	864	16257	--	1180	8046	--	408

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	336	33 A	30	306	45	37	370	16	16
2	243	22	14	251	35	24	350	14	13
3	857	180 S	470	332	30	27	330	12	11
4	416	70	79	1570	210 S	940	320	12	10
5	306	42	35	1980	550 S	3800	307	10	8
6	236	32	20	752	60	120	296	10	8
7	211	25	14	477	40	52	286	9	7
8	202	22	12	405	32	35	284	9	7
9	201	22	12	650	--	100	280	9	7
10	489	--	80	2630	--	4000	292	9	7
11	1450	300 S	1200	922	60	150	298	10	8
12	721	210 S	430	577	32	50	264	9	6
13	369	58	58	471	26	33	258	9	6
14	293	39	31	419	21	24	251	9	6
15	302	35	28	372	18	18	243	8	5
16	326	37	32	339	15	14	241	8	5
17	275	32	24	317	14	12	257	8	6
18	233	27	17	306	13	11	249	8	5
19	226	25	15	297	12	10	238	8	5
20	218	25	15	383	14	14	231	8	5
21	213	--	10	349	12	11	331	--	30
22	274	--	20	345	14	13	760	--	100
23	219	17	10	299	13	10	226	22	13
24	196	15	8	302	14	11	193	15	8
25	230	18	11	939	53 S	140	200	12	6
26	215	16	9	786	--	100	177	15	7
27	178	13	6	1700	--	1000	169	12	5
28	173	12	6	1250	--	400	176	--	7
29	200	--	8	560	43	65	432	--	40
30	1150	--	500	450	21	26	277	--	20
31	410	130	140	400	18	19	--	--	--
TOTAL	11368	--	3344	21136	--	11266	8586	--	387

TOTAL DISCHARGE FOR YEAR (CFS-DAYS).....156062
TOTAL LOAD FOR YEAR (TONS).....48048

S Computed by subdividing day.
A Computed from partly estimated-concentration graph.

1-4815. BRANDYWINE CREEK AT WILMINGTON, DEL.--Continued

Particle-size analyses of suspended sediment, water year October 1966 to September 1967
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Jan. 28, 1967.....	0730	42		2070	944		--	54	72	87	95	99	100	--	--			SCPW
Mar. 7.....	1030	32		5980	1460		--	35	50	67	79	90	95	97	100			SCPW
July 11.....	1230	77		1600	399		38	54	72	86	92	99	100	--	--			SCPW
Aug. 4.....	0945	74		1960	273		34	47	65	84	93	98	99	99	100			SCPW

1-4821. DELAWARE RIVER AT DELAWARE MEMORIAL BRIDGE, NEAR WILMINGTON, DEL.

LOCATION.--Lat 39°41'18", long 75°31'06", at center of the navigational channel at bridge between Pigeon Point, Del. and Deepwater Point, N. J. Water-quality recorder (39°41'21", 75°31'19") at tidal-gaging station located on channel side of west tower of south bridge.
DRAINAGE AREA.--11,030 square miles.
RECORDS AVAILABLE.--Chemical analyses: July 1955 to September 1967.
Water temperatures: October 1956 to September 1967.
EXTREMES, 1966-67.--Specific conductance: Maximum daily, 11,000 micromhos Oct. 16; minimum daily, 150 micromhos Apr. 2, 3.
Dissolved oxygen: Maximum daily, 13.3 ppm Mar. 2; minimum daily, 0.0 ppm Aug. 6.
Water temperatures: Maximum, 84°F Aug. 3, 4; minimum, 33°F Feb. 27, 28, and Mar. 2.
EXTREMES, 1955-67.--Specific conductance: Maximum daily, 14,600 micromhos Oct. 6, 1957; minimum daily, 100 micromhos on several days during the spring of most years.
Dissolved oxygen (1962-67): Maximum daily, 13.3 ppm Mar. 2, 1967; minimum daily, 0.0 ppm on many days during summer months.
Water temperatures (1956-67): Maximum, 84°F on several days during 1961, 1966, and 1967; minimum, freezing point on many days during winter months.
REMARKS.--Samples collected approximately 3 feet from surface. Records of discharge are given for Delaware River at Trenton, N. J.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
Dec. 8, 1966...	6030	6.5	0.3	0.12	0.51	42	52	410	24	5	214	740	0.5	11	1680	319	315		2720	5.3	7

1-4821. DELAWARE RIVER AT DELAWARE MEMORIAL BRIDGE, NEAR WILMINGTON, DEL.--Continued

Specific conductance (micromhos at 25°C), dissolved oxygen, in parts per million, and temperature (°F) of water, water year October 1966 to September 1967--Continued

Day	OCTOBER									NOVEMBER								
	Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)			Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	10000	4000	6944	6.0	2.9	4.6	65	64	65	--	--	--	5.8	1.4	--	59	57	--
2	9750	4000	6768	6.2	3.3	--	65	63	64	--	--	--	6.4	1.3	--	59	58	58
3	9500	3800	6253	5.7	2.6	--	65	63	64	--	--	--	6.7	1.9	--	59	58	58
4	9100	3650	6237	5.8	2.2	4.1	65	63	65	--	--	--	5.8	2.1	3.7	58	56	57
5	8750	3000	5845	5.5	1.8	3.9	65	64	65	--	--	--	4.6	2.1	--	57	55	56
6	7200	2930	4808	5.8	2.1	3.8	65	63	64	--	--	--	6.0	2.6	--	56	55	--
7	9450	3220	5485	7.1	2.8	--	64	62	63	3600	1180	--	7.0	2.4	4.4	56	54	55
8	9300	3000	5277	5.1	2.4	--	65	62	--	3840	1250	2340	6.4	2.4	4.5	56	54	55
9	9100	3180	5672	--	--	--	--	--	--	3580	980	2013	5.6	1.4	3.6	56	54	55
10	9100	3400	5979	--	--	--	--	--	--	3530	1000	1996	5.9	1.2	3.3	57	55	56
11	9500	3550	6421	7.1	3.0	--	63	63	--	3050	788	1835	4.6	0.6	2.6	57	56	56
12	8700	3450	--	7.0	2.8	4.9	63	62	63	3340	850	1775	4.9	0.4	2.3	57	56	56
13	9900	3350	--	6.7	2.3	4.6	63	62	63	4070	850	1909	4.5	0.4	--	57	55	56
14	10000	3540	6425	6.6	2.0	4.4	63	62	63	3950	960	1997	6.5	1.4	--	55	54	55
15	10200	3750	6675	6.5	2.1	--	63	62	63	3170	900	1907	6.0	1.3	3.4	55	53	--
16	11000	3720	6953	--	--	--	64	63	63	3800	950	1970	5.9	1.6	3.5	54	53	--
17	10300	3800	6484	7.7	2.3	--	63	62	62	3050	900	1872	5.0	0.8	3.2	55	53	54
18	9980	3930	6518	6.1	2.7	--	62	61	61	3290	970	1742	4.9	1.0	2.7	55	54	54
19	9300	3200	6398	7.5	2.8	5.3	61	60	61	2520	780	1580	4.9	1.6	3.2	55	53	54
20	6000	3050	--	5.1	1.1	3.3	61	60	60	3000	900	1768	6.7	2.3	4.4	54	51	52
21	--	--	--	4.7	1.5	2.8	61	60	60	3300	1060	1916	6.5	2.9	4.6	53	51	--
22	--	--	--	1.8	1.5	--	60	60	--	3380	1040	1972	6.4	2.7	4.4	52	50	--
23	--	--	--	--	--	--	--	--	--	3700	1110	2145	6.4	2.6	4.4	52	50	51
24	--	--	--	--	--	--	--	--	--	3960	1210	2291	6.0	2.6	4.3	52	50	51
25	--	--	--	--	--	--	--	--	--	3950	1350	2413	6.0	2.3	4.0	52	50	51
26	--	--	--	--	--	--	--	--	--	4900	1480	2694	5.6	2.3	3.9	52	51	52
27	--	--	--	--	--	--	--	--	--	6000	1900	3505	6.2	2.4	4.1	52	50	51
28	--	--	--	--	--	--	--	--	--	8500	2850	5181	8.7	2.8	5.6	52	51	51
29	--	--	--	--	--	--	--	--	--	7030	2160	4331	8.8	4.3	6.5	52	50	51
30	--	--	--	--	--	--	--	--	--	6300	1500	3718	8.3	3.8	5.9	52	50	51
31	--	--	--	--	--	--	--	--	--									
	DECEMBER									JANUARY								
1	--	--	--	8.0	3.5	5.6	51	49	50	3070	510	1499	9.8	6.6	7.8	39	37	38
2	--	--	--	6.9	3.3	5.2	51	49	50	3050	490	1536	8.8	6.2	7.5	39	37	38
3	--	--	--	7.4	4.0	--	49	47	--	3370	450	1675	8.7	6.0	7.2	39	38	38
4	--	--	--	9.0	4.5	6.8	48	44	46	3350	570	1900	8.5	5.5	6.9	39	38	38
5	--	--	--	8.6	5.0	6.9	46	44	45	3450	590	1763	8.2	5.2	6.5	40	38	39
6	--	--	--	7.9	4.2	6.2	47	44	45	2860	440	1450	7.7	4.9	6.3	39	38	38
7	--	--	--	7.8	3.8	5.8	47	45	46	3230	500	1500	--	--	--	39	37	38
8	5200	1550	--	7.3	3.1	5.3	48	45	46	3300	500	1475	--	--	--	40	38	39
9	5150	1520	3218	7.4	3.3	5.3	48	46	47	2900	430	1322	--	--	--	39	38	39
10	5150	1500	--	7.3	2.9	--	49	47	--	2930	400	1286	--	--	--	39	38	39
11	5010	1420	3120	7.6	2.7	5.4	49	47	48	2600	360	1139	--	--	--	39	38	39
12	5300	1250	2877	7.5	2.6	5.1	49	46	48	2430	370	1068	6.8	4.4	--	39	38	38
13	5100	1500	3148	8.1	3.2	5.8	48	45	46	2070	340	1024	6.2	4.1	4.9	39	38	39
14	5400	1530	3272	8.4	4.4	6.4	47	45	46	2400	440	1158	6.1	4.0	4.9	39	38	39
15	4500	1200	2685	7.8	3.2	5.8	47	45	46	2060	410	1170	5.7	3.8	4.6	40	39	39
16	5200	1500	3050	8.6	4.4	6.4	46	44	45	1640	350	932	5.3	3.9	4.6	40	39	39
17	4800	1140	2712	7.4	3.6	5.7	46	44	45	1570	350	936	5.5	4.0	4.8	40	38	39
18	4300	1230	2432	6.7	3.5	5.2	47	45	46	1170	310	645	5.2	4.0	4.6	40	38	39
19	4330	1100	2588	8.0	3.3	5.7	46	43	45	1220	340	763	6.2	4.4	5.4	39	37	38
20	4940	1580	3242	8.2	4.7	6.5	44	42	43	1490	350	880	6.4	4.5	5.4	39	37	38
21	5000	1270	2879	8.4	4.4	6.6	44	42	43	1620	380	890	6.7	4.9	5.7	39	37	38
22	4990	1370	3047	8.3	4.5	6.4	44	42	43	1750	350	870	6.5	4.8	5.6	40	38	39
23	4540	920	2561	7.4	3.5	5.7	44	42	43	2200	430	1111	6.9	4.9	5.7	40	38	39
24	4460	1010	2152	7.7	3.7	5.8	43	40	42	2860	410	1219	7.4	4.7	5.7	41	39	40
25	4880	770	2074	9.3	4.8	7.0	41	39	40	3670	420	1374	6.6	4.5	--	41	40	40
26	2640	380	1368	8.7	5.0	--	41	39	40	3210	430	1458	6.3	4.4	--	42	39	41
27	4360	580	1901	10.8	6.8	--	40	37	39	3530	370	1567	8.0	4.6	6.1	42	40	41
28	5000	910	2419	11.4	6.9	8.9	39	36	38	2850	240	991	7.7	5.1	6.4	43	41	42
29	4630	930	2828	11.3	6.9	9.2	39	37	38	670	260	335	7.3	6.0	6.7	43	42	42
30	3170	370	1567	9.7	6.2	8.0	39	37	38	410	260	302	8.2	6.4	7.2	42	41	41
31	2660	440	1233	9.4	6.5	7.7	39	37	38	680	260	370	7.6	6.2	6.8	42	40	41

1-4821. DELAWARE RIVER AT DELAWARE MEMORIAL BRIDGE, NEAR WILMINGTON, DEL.--Continued

Specific conductance (micromhos at 25°C), dissolved oxygen, in parts per million, and temperature (°F) of water, water year October 1966 to September 1967

Day	FEBRUARY									MARCH								
	Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)			Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	650	250	374	7.3	6.1	6.6	43	41	42	1150	320	595	12.0	9.4	10.9	36	34	35
2	630	250	377	7.0	5.9	6.3	43	41	42	2470	430	1151	13.3	9.8	11.4	35	33	34
3	420	230	297	7.1	6.5	6.8	42	41	42	2600	400	1153	11.9	9.5	10.6	37	35	36
4	850	240	405	7.6	6.4	6.7	42	41	41	2430	450	--	11.7	9.4	--	37	35	--
5	720	220	380	7.0	6.2	6.5	42	41	42	2900	500	1470	11.6	9.1	10.3	37	35	36
6	640	220	348	7.5	6.3	6.7	42	40	41	4100	500	1602	11.1	8.7	10.0	37	36	37
7	1050	230	408	9.2	7.4	8.4	40	38	39	2250	250	824	10.9	7.6	9.3	39	37	38
8	990	240	452	9.2	8.0	8.7	39	37	38	310	240	262	8.5	6.8	7.6	41	38	39
9	900	230	416	8.9	7.4	8.2	38	37	38	270	230	252	7.6	6.6	7.0	41	39	40
10	1690	220	595	9.2	7.4	8.2	38	37	37	280	220	250	7.0	6.3	6.6	41	40	41
11	1350	220	663	9.2	7.4	8.2	38	37	38	290	200	242	7.3	6.0	6.4	43	41	42
12	650	210	358	8.7	7.5	8.1	38	37	38	300	200	239	7.5	5.9	--	43	42	42
13	870	240	430	9.4	8.0	--	37	36	37	350	200	245	7.5	5.9	--	42	42	42
14	830	240	473	9.3	7.5	8.3	38	36	37	270	180	218	7.3	5.9	6.6	44	42	43
15	800	250	484	8.8	7.1	8.0	38	37	38	240	180	206	7.5	6.5	7.1	44	43	43
16	850	210	393	8.8	7.3	7.9	39	38	38	240	190	222	8.2	7.4	7.7	44	42	44
17	370	220	288	8.9	7.1	8.1	39	37	38	200	180	185	8.4	7.6	8.0	44	43	43
18	670	230	430	10.2	7.5	8.9	38	36	37	180	160	173	8.6	7.8	8.3	43	42	42
19	850	250	449	9.9	7.3	8.5	38	36	37	210	170	179	8.9	7.7	8.3	43	41	42
20	1000	250	489	9.1	7.0	8.0	38	37	38	750	170	233	8.8	7.5	8.0	44	41	42
21	1610	250	531	9.2	6.9	7.8	39	37	38	1000	170	276	8.2	7.4	7.6	43	41	42
22	1190	250	483	9.1	6.9	8.0	38	37	38	1150	180	389	8.1	7.3	7.7	43	41	42
23	1900	260	748	10.4	6.9	8.3	38	37	38	1850	190	519	8.4	7.2	7.6	43	41	42
24	1130	270	--	9.9	7.1	8.4	38	37	37	970	170	355	7.6	7.1	7.3	43	42	42
25	550	280	--	9.8	7.1	8.6	37	36	36	1400	180	386	7.5	6.8	7.2	44	42	43
26	1010	270	--	11.8	8.5	9.8	36	34	35	1600	180	456	7.6	6.6	6.9	45	43	44
27	2020	310	1070	13.0	9.3	11.1	36	33	34	1750	180	500	7.4	6.4	6.8	45	43	44
28	2060	320	1038	12.1	9.6	11.0	36	33	34	1400	180	453	7.5	6.3	6.6	45	44	44
29										750	180	326	6.6	6.1	6.3	46	44	45
30										530	170	255	9.3	5.6	6.1	47	45	46
31										290	170	203	6.6	5.6	5.9	48	45	46
	APRIL									MAY								
1	210	160	182	6.4	5.5	5.9	49	46	47	815	255	562	6.6	2.2	4.3	57	52	55
2	190	150	166	6.6	5.6	6.0	52	47	49	1050	255	541	6.6	4.2	5.6	58	56	57
3	231	150	200	6.6	5.5	--	52	49	50	575	250	400	6.0	3.8	5.0	59	58	59
4	259	210	226	7.4	6.8	7.1	52	49	50	815	265	456	6.6	4.0	5.3	60	58	59
5	258	199	221	7.4	6.9	7.1	52	49	51	815	265	457	6.2	3.6	5.2	60	58	59
6	225	182	209	7.5	6.6	6.9	53	51	52	820	265	438	6.4	3.2	4.9	61	59	60
7	245	189	211	7.2	6.6	6.9	52	51	51	1130	280	571	6.8	4.2	5.7	60	58	59
8	238	175	204	7.2	6.6	6.9	53	51	52	780	250	415	6.4	3.6	5.1	59	58	59
9	227	170	196	7.5	6.3	6.8	53	51	52	535	245	321	5.8	3.0	4.4	59	58	59
10	218	160	187	7.4	6.3	6.8	54	52	53	395	245	274	5.6	2.8	4.2	59	58	58
11	198	160	174	7.5	6.0	6.8	53	51	52	550	250	320	6.0	2.2	3.9	59	58	58
12	191	164	173	7.7	5.9	--	53	51	--	500	235	283	5.6	1.0	2.4	59	58	58
13	270	161	194	7.8	6.0	--	53	52	--	320	235	263	2.8	1.0	2.0	59	58	59
14	245	170	192	7.8	5.4	6.6	54	51	53	300	230	263	2.6	1.2	2.2	60	59	59
15	230	170	191	7.0	5.2	6.0	54	52	53	295	220	244	4.0	2.2	2.9	60	58	59
16	260	170	200	7.2	2.8	5.8	55	53	54	300	215	239	4.0	2.8	3.4	60	59	59
17	285	175	218	6.0	2.8	4.4	56	53	54	250	215	232	4.0	0.4	2.5	60	58	59
18	310	185	211	3.8	1.0	2.3	53	52	53	260	210	231	3.0	0.8	1.5	60	58	59
19	190	170	185	4.6	2.4	3.5	53	53	53	290	210	235	4.1	3.2	--	61	59	60
20	325	180	222	7.6	2.2	4.8	53	51	52	275	205	225	4.4	3.2	3.6	62	60	60
21	745	185	304	6.8	1.6	3.5	53	51	53	300	205	231	4.2	3.1	3.7	62	61	61
22	1230	195	414	3.8	1.2	2.4	54	52	53	410	215	252	4.2	2.8	3.5	62	60	61
23	870	205	341	4.4	1.8	2.9	55	53	54	515	220	269	4.7	2.7	3.6	62	60	61
24	1760	215	450	7.2	2.6	4.7	55	54	54	525	220	299	5.2	1.7	4.1	62	61	61
25	1055	220	450	7.6	2.6	3.8	54	53	54	560	225	314	5.6	1.2	2.5	61	60	60
26	1630	250	706	3.6	2.6	3.2	54	53	54	645	225	340	4.8	1.1	3.7	60	59	60
27	1805	595	809	4.2	3.2	3.6	54	53	53	815	225	404	5.0	1.5	4.1	60	58	59
28	605	500	594	7.2	2.4	3.2	53	52	52	960	210	394	4.6	4.0	4.3	62	59	60
29	1045	535	684	3.4	2.0	2.4	53	52	52	680	195	347	4.7	3.5	4.3	62	61	62
30	670	640	659	3.0	2.0	2.6	54	52	53	580	195	333	5.0	3.4	4.4	62	61	61
31										535	190	333	4.7	3.2	4.1	63	61	62

1-4821. DELAWARE RIVER AT DELAWARE MEMORIAL BRIDGE, NEAR WILMINGTON, DEL.--Continued

Specific conductance (micromhos at 25°C), dissolved oxygen, in parts per million, and temperature (°F) of water, water year October 1966 to September 1967--Continued

Day	JUNE									JULY								
	Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)			Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	545	195	344	4.2	2.8	3.8	63	61	62	1900	550	1233	2.8	0.4	1.6	77	75	76
2	590	205	344	3.9	2.5	3.4	64	62	63	2225	570	1238	3.9	0.7	1.9	76	75	76
3	725	205	374	3.9	2.6	3.2	65	63	64	1900	420	1148	3.5	1.0	2.2	77	75	76
4	900	210	424	3.7	2.3	3.0	66	64	65	2025	500	1086	3.6	0.9	2.2	77	76	77
5	1030	220	469	3.9	2.3	2.9	67	65	66	2245	445	1006	3.7	1.1	2.3	78	75	76
6	1165	235	508	3.5	2.1	2.7	69	65	67	2635	505	1101	3.6	1.3	2.4	77	74	76
7	1300	245	592	3.8	2.0	2.7	68	66	68	2295	515	1135	4.1	1.2	2.3	76	75	76
8	1605	260	666	3.7	2.0	2.6	69	68	68	2525	550	1222	4.1	1.3	2.3	77	75	76
9	1560	290	742	3.8	2.0	2.6	70	68	69	2475	560	1284	3.8	1.1	2.0	76	74	76
10	1640	295	797	3.2	2.2	2.5	70	69	70	2700	605	--	3.2	0.9	--	76	76	--
11	1595	335	843	2.8	2.0	2.3	72	70	71	--	--	--	--	--	--	--	--	--
12	1660	390	928	3.2	1.0	2.1	73	71	72	2215	540	--	--	--	--	80	78	--
13	1920	325	1005	3.8	0.9	2.0	74	72	73	2220	510	1294	--	--	--	80	79	79
14	1980	420	1157	5.4	1.0	2.4	74	73	73	2345	545	1331	--	--	--	80	79	80
15	2145	455	1203	6.8	0.8	2.7	74	72	73	2085	505	1236	--	--	--	80	79	80
16	2155	475	1213	5.2	2.2	3.7	74	72	73	2175	450	1105	--	--	--	81	79	80
17	2325	505	1265	6.3	1.6	3.0	75	73	74	2720	475	1121	--	--	--	81	79	80
18	2220	550	1281	5.6	0.9	2.6	76	74	75	2725	485	1212	--	--	--	82	80	81
19	2200	530	1219	4.9	0.8	2.5	76	74	75	2795	510	1226	--	--	--	82	80	81
20	3245	580	1363	4.7	1.4	2.9	75	73	74	2745	530	1261	--	--	--	82	80	81
21	2445	550	1360	3.8	1.1	2.3	74	73	74	3070	585	1414	--	--	--	82	80	81
22	3440	560	1366	4.2	2.8	--	76	74	74	2810	560	1337	--	--	--	82	80	81
23	2795	515	1206	--	--	--	76	74	75	2365	565	1335	2.5	1.4	--	81	80	81
24	2595	510	1203	--	--	--	76	74	75	2880	550	1375	2.6	1.2	1.9	82	81	81
25	2460	490	1206	--	--	--	77	75	76	2695	615	1440	3.4	1.4	2.3	82	80	82
26	1715	515	1070	2.6	0.7	--	77	76	77	2350	535	1368	3.2	1.3	2.2	82	82	82
27	2300	510	1152	3.0	0.4	1.4	77	76	76	2325	640	1418	2.9	1.0	2.0	83	82	82
28	1980	535	1205	2.8	0.4	1.5	77	76	77	2245	645	1418	3.0	0.9	1.9	83	82	83
29	2010	550	1268	3.0	0.6	1.7	77	76	76	2220	630	1368	2.9	0.7	1.8	83	82	83
30	2100	640	1331	3.2	0.5	1.7	77	76	76	2110	480	1217	2.7	0.6	1.6	83	82	82
31										2055	515	1129	3.6	0.8	1.9	83	82	82
	AUGUST									SEPTEMBER								
1	1365	540	--	2.7	1.1	--	83	82	--	2210	255	458	4.4	1.1	2.4	79	76	77
2	2205	555	--	4.9	1.7	--	83	82	--	2065	265	589	3.2	1.4	2.2	77	75	76
3	2005	500	1138	4.3	1.4	2.9	84	82	83	2060	280	753	3.0	1.1	--	77	75	76
4	1570	280	752	4.0	0.4	1.9	84	82	83	1970	280	813	--	--	--	76	74	75
5	1065	255	490	3.7	0.5	1.9	83	81	82	2825	340	1152	--	--	--	76	75	76
6	810	270	415	3.2	0.0	1.5	82	81	82	2985	350	1279	--	--	--	77	75	76
7	755	270	423	3.0	0.1	1.5	83	81	82	3425	465	1556	--	--	--	77	75	76
8	910	260	445	3.1	0.6	1.6	83	81	82	3280	525	1700	--	--	--	77	76	76
9	985	305	509	3.7	0.4	1.9	83	81	82	3425	560	1821	--	--	--	77	76	77
10	610	255	365	3.5	1.6	2.4	82	80	81	2855	605	1728	--	--	--	77	76	77
11	380	205	293	4.8	1.2	2.5	82	80	81	4210	730	2187	--	--	--	77	74	75
12	430	255	300	4.8	1.0	2.5	81	79	80	4150	1165	2476	--	--	--	75	74	--
13	405	255	300	4.2	0.8	2.2	80	78	79	4130	940	2326	--	--	--	--	--	--
14	485	255	323	4.4	0.7	2.0	79	78	78	4275	1045	2333	--	--	--	--	--	--
15	515	255	341	4.0	0.4	1.6	79	78	79	4765	1150	2641	--	--	--	--	--	--
16	610	245	351	3.9	0.2	1.5	80	79	79	4560	1660	2893	6.6	5.4	--	74	73	--
17	710	245	370	3.7	0.2	1.4	80	79	80	5000	1140	2821	6.6	4.8	5.9	74	73	73
18	790	245	394	4.1	0.4	1.7	80	79	80	4720	1300	--	6.4	4.4	5.5	74	73	73
19	825	260	435	3.8	0.8	2.1	80	80	80	--	--	--	6.0	3.6	5.0	74	73	74
20	950	270	490	4.0	1.0	2.2	81	80	80	--	--	--	5.8	3.4	4.8	75	73	74
21	945	275	504	4.1	1.0	2.2	80	80	80	--	--	--	6.0	3.4	4.8	75	74	75
22	945	270	521	3.4	0.6	1.8	80	80	80	--	--	--	5.6	2.8	4.4	76	74	75
23	825	300	542	3.0	0.4	1.7	80	80	80	--	--	--	6.0	3.2	--	75	74	--
24	950	310	606	3.5	1.4	2.4	80	78	79	--	--	--	6.2	3.2	4.6	74	72	74
25	1015	285	617	3.7	1.6	2.6	78	77	78	--	--	--	5.8	2.6	4.3	74	72	73
26	795	275	521	2.6	1.1	1.8	78	77	78	--	--	--	7.0	3.4	4.9	73	71	72
27	715	240	462	2.5	0.8	1.6	78	77	77	--	--	--	7.0	3.6	5.2	72	68	70
28	415	235	305	2.3	0.5	1.4	78	77	78	--	--	--	8.2	3.6	5.7	70	69	69
29	370	240	276	2.1	0.5	1.2	78	77	77	--	--	--	6.8	3.8	5.5	70	69	69
30	465	235	289	2.5	0.4	1.2	78	77	78	--	--	--	6.6	2.8	4.7	71	69	70
31	365	240	290	2.2	0.5	1.2	78	78	78									

1-4828. DELAWARE RIVER AT REEDY ISLAND JETTY, DEL.

LOCATION.--Lat 39°30'03", long 75°34'07", water-quality recorder located on platform about 0.4 mile downstream from Reedy Island near Port Penn, Del.
DRAINAGE AREA.--11,222 square miles, approximately.
RECORDS AVAILABLE.--Chemical analyses: October 1963 to September 1967.
EXTREMES, 1966-67.--Specific conductance: Maximum daily, 20,100 micromhos Oct. 7; minimum daily, 600 micromhos Mar. 16, Apr. 10-12.
EXTREMES, 1963-67.--Specific conductance: Maximum daily, 35,400 micromhos Nov. 7, 1963; minimum daily, 300 micromhos Mar. 18, 19, 1964.
REMARKS.--Records of discharge are given for Delaware River at Trenton, N. J.

Chemical analyses, in parts per million, December 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
																Calcium, magnesium	Noncarbonate				
Dec. 15, 1966..	8460	4.9		0.02	0.05	95	208	1700	92	18	517	2980	0.6	2.3	5950	1090	1080		9440	6.0	5
Jan. 11, 1967..	7800	5.6		.00	.00	88	208	1650	87	32	504	3000	.5	3.2	6110	1080	1050		9570	6.2	2
Feb. 15.....	7030	6.7		.03	.04	41	69	530	26	14	206	940	.5	5.6	1950	387	375		3290	5.8	5
Mar. 10.....	14700	7.6		.02	.08	48	82	700	40	8	257	1280	.3	6.3	2480	458	451		3980	5.5	5
Apr. 4.....	37800	6.5	0.1	.00	.00	24	24	225	12	12	102	370	.3	7.4	838	159	149		1380	5.9	3
May 3.....	9600	4.7		.02	.02	45	115	875	41	14	269	1600	.4	2.7	A3320	586	575		5250	6.7	5
May 17.....	22800	4.4		.00	.02	25	25	160	4.4	13	102	300	.4	6.4	698	166	155		1190	6.3	4
June 9.....	5070	4.5		.00	.00	41	72	572	26	16	183	1000	.4	3.2	2130	399	386		3380	6.3	8
July 11.....	6300	2.2		.01	.01	47	100	720	33	16	240	1320	.4	4.6	2500	529	516		4560	6.2	6
Aug. 8.....	11400	1.1		.05	.15	36	44	300	18	24	142	555	.5	3.9	1240	271	252		2060	6.5	16
Sept. 7.....	4150	3.8		.02	.01	90	160	1230	61	33	343	2300	.3	1.7	4530	883	856		7350	6.4	3
Sept. 18.....	5260	2.5		.02	.00	110	277	1990	85	65	547	3950	.4	.8	7670	1420	1360		B12100	6.5	4

A Includes 0.30 ppm of zinc (Zn).
B Density at 20°C 1.003.

1-4828. DELAWARE RIVER AT REEDY ISLAND JETTY, DEL.--Continued

Specific conductance (micromhos at 25°C), water year October 1966 to September 1967

Day	OCTOBER									NOVEMBER								
	Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)			Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	17800	13500	15667							16600	10200	12883						
2	19500	13100	16313							16800	10800	12925						
3	19200	12900	15546							16500	10400	13721						
4	19400	13000	15608							13400	8600	10708						
5	18600	12800	15258							14400	8360	10585						
6	17600	12200	13863							13800	8620	10662						
7	20100	12500	15746							16000	8500	11746						
8	19100	11600	14779							14900	9580	12066						
9	20000	11800	15338							14330	9200	11486						
10	19400	12300	15875							15060	9620	12077						
11	19100	12800	15954							13200	8780	11150						
12	18900	12600	15488							16180	9070	11459						
13	18400	12600	14892							14980	9020	11388						
14	18900	12700	15154							16130	9570	11938						
15	18700	12900	15246							15400	9500	11790						
16	19200	12600	15371							15520	9460	11621						
17	18400	12400	14663							14750	8680	11240						
18	18400	12400	14371							14700	9200	10895						
19	17300	12000	14513							14100	8770	10611						
20	14800	10500	12283							15850	8710	11935						
21	15000	8910	10991							17110	10310	13089						
22	16300	8720	11500							17260	10380	13748						
23	15500	8900	11853							18130	11130	14260						
24	16700	9400	12365							17700	11480	14433						
25	16100	9800	12656							18500	11250	14508						
26	16700	10300	12963							18160	11340	14367						
27	15600	10300	12713							18690	11870	14621						
28	15600	10300	12996							19480	13560	16256						
29	16500	10600	12754							17850	10960	14366						
30	15400	9900	12050							16350	9850	13104						
31	17300	11100	13279															
	DECEMBER									JANUARY								
1	14910	9280	11643							14200	6300	9158						
2	11930	8130	10279							12600	6600	9325						
3	13410	7990	9820							14400	6000	9521						
4	14850	8360	--							13800	6600	10338						
5	14970	11080	--							14600	7400	10229						
6	14330	8760	11249							13500	6400	9188						
7	14520	8330	11412							13400	6400	8967						
8	15360	8630	11547							12900	5800	8496						
9	14840	8930	11327							12800	5300	8263						
10	16040	9030	11461							13200	5800	8167						
11	14200	8210	11048							11700	5300	7908						
12	14060	8430	10335							12100	5100	7388						
13	14860	9100	11123							11800	4900	6971						
14	17110	9330	12249							11500	5100	7700						
15	14540	8180	10990							10800	4900	7700						
16	16750	8680	12044							9900	4500	6892						
17	15040	8380	11128							10800	4700	7346						
18	14550	8450	10667							9500	4400	6321						
19	14760	8250	11076							12600	4000	7563						
20	15700	9350	12674							12300	5400	9100						
21	17300	9300	13027							12900	5200	8908						
22	17680	9870	13911							11800	4500	7888						
23	17170	9040	12641							13900	5500	8913						
24	15140	9470	11858							13400	6000	8871						
25	17250	9130	12735							14400	6200	9283						
26	13230	7020	9872							13600	6200	8938						
27	15330	7030	10820							13400	6400	8917						
28	18200	8270	12626							12100	4500	8042						
29	18210	9870	13614							6500	2500	4675						
30	12870	6340	9683							5300	2300	3408						
31	11770	6070	8024							6800	2100	3663						

1-4828. DELAWARE RIVER AT REEDY ISLAND JETTY, DEL.--Continued

Specific conductance (micromhos at 25°C), water year October 1966 to September 1967--Continued

Day	FEBRUARY									MARCH								
	Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)			Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	7100	2100	3688							9400	4200	6213						
2	8000	1900	4000							14000	4700	9067						
3	6100	1900	3175							12900	4900	8600						
4	10600	2000	5425							14300	5600	9267						
5	10500	2600	5579							15100	6200	9929						
6	9700	2700	4858							14800	6400	10050						
7	9800	3300	5863							12800	3100	8350						
8	11700	3800	6767							6900	1600	4000						
9	9400	3400	5642							6400	1400	3017						
10	11200	3900	6346							5300	1400	2488						
11	10500	4000	6717							4900	900	2275						
12	7100	3000	4354							6000	1400	2696						
13	7100	2900	4196							5900	1400	2708						
14	7400	2900	4525							4200	1000	2017						
15	7100	3000	4425							2200	1000	1488						
16	8600	2200	4691							5600	600	1675						
17	4600	2100	3088							4600	800	1692						
18	8200	2800	5675							4800	1100	2550						
19	11600	4000	7717							9800	1500	4825						
20	10700	4100	7579							8300	2700	5996						
21	13500	4500	7867							9400	3100	6400						
22	11000	3400	6392							11000	4200	7546						
23	12400	4200	7363							13300	4400	8171						
24	9600	3700	5771							9600	4200	6629						
25	5800	2100	3933							9300	3500	5658						
26	10200	2200	4279							8800	3200	5425						
27	13200	3400	8408							8700	3200	5450						
28	13900	5800	9313							8700	2700	4779						
29										7100	2400	3783						
30										6400	1900	3179						
31										3900	1600	2321						
	APRIL									MAY								
1	2600	1200	1754							9500	4100	6456						
2	2100	1000	1338							8900	4100	6196						
3	2700	900	1350							8500	3800	5467						
4	4400	700	1883							9000	3500	5619						
5	4600	800	1900							8750	3300	5458						
6	3300	700	1358							9000	3100	4810						
7	3900	800	1546							10000	3650	6517						
8	4800	700	1883							9250	2900	5335						
9	3100	700	1571							6750	2450	3946						
10	2200	600	1121							6900	1800	3092						
11	1800	600	804							7000	1900	3194						
12	1400	600	783							6250	1500	2383						
13	4700	700	1546							4900	1200	2183						
14	4200	700	1396							5200	1100	1867						
15	3200	800	1513							4600	1200	2090						
16	5700	1100	2521							3700	900	1601						
17	6800	1300	3079							4650	900	2141						
18	6200	1500	3121							6300	800	--						
19	6000	1000	2692							5300	950	2473						
20	11400	1900	6725							5250	850	1963						
21	11200	2900	6708							4850	800	1802						
22	10700	3700	6767							5500	900	1938						
23	9400	3200	5479							5700	1050	2181						
24	7400	2800	4933							6800	1200	2725						
25	8500	2800	4850							7200	1650	3433						
26	11100	3200	5733							8600	2200	4540						
27	10700	3600	5596							10400	2200	4902						
28	12000	4400	7067							9500	2300	4402						
29	12400	4100	8046							7500	2350	4115						
30	12200	3800	7608							7600	2150	4285						
31										7250	2100	4429						

1-4828. DELAWARE RIVER AT REEDY ISLAND JETTY, DEL.--Continued

Specific conductance (micromhos at 25°C), water year October 1966 to September 1967--Continued

Day	JUNE									JULY								
	Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)			Specific conductance (micromhos at 25°C)			Dissolved oxygen (ppm)			Temperature (°F)		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	8300	2450	4888							9500	4600	6496						
2	8750	2700	5098							10300	4600	6602						
3	10000	3000	5306							10100	4350	6390						
4	10200	2800	5404							11000	3950	6119						
5	9900	3200	5398							10800	3700	6073						
6	10300	3000	5496							11600	3700	6150						
7	10800	3400	5756							10500	4200	6200						
8	10200	3700	5738							11100	4400	6185						
9	10200	3500	5483							10700	4250	6410						
10	10000	3800	5665							10700	4250	6244						
11	9400	3500	5373							10000	4500	6685						
12	9600	3600	5600							10600	4500	6900						
13	9250	3500	5698							10600	4600	6621						
14	10400	3900	6458							11000	4550	6958						
15	9050	4100	6117							9750	4600	6508						
16	7550	3850	5444							9800	3800	5733						
17	9650	3900	5663							10600	4000	5927						
18	9450	4000	5750							10500	4100	6033						
19	10000	3800	5731							11000	4100	6098						
20	11900	4300	7015							11300	4300	6325						
21	11500	4600	6838							10700	4400	6385						
22	10000	4600	6410							10000	4400	6252						
23	10000	4100	5798							11100	4500	6510						
24	9350	3900	5483							10000	4450	6290						
25	10100	4100	5677							9750	4450	6156						
26	7500	3600	5248							9100	4050	5856						
27	10400	3700	5996							9750	4000	6275						
28	10300	3900	6281							9000	4600	6510						
29	9150	4300	6477							10500	4300	6302						
30	9600	4850	6783							10100	4200	6492						
31										11400	4100	6710						
	AUGUST									SEPTEMBER								
1	11800	3900	6575							14200	2850	7256						
2	12800	3800	7217							13300	4500	8115						
3	11200	4600	7156							11500	5000	7840						
4	8250	3400	5788							11900	4500	7019						
5	7750	2650	4317							11700	4800	7458						
6	7500	2200	3746							11500	5100	7619						
7	8000	2100	3644							12000	5400	8038						
8	7500	2050	3698							11800	5500	8140						
9	7600	2200	4010							12100	5700	8090						
10	5700	1800	3008							9400	5650	7329						
11	3900	1300	2183							13400	5500	8808						
12	4000	1100	2100							14000	7300	9938						
13	4900	1150	2133							14000	7200	9615						
14	6000	1100	2485							14600	6800	9598						
15	7500	1150	2621							14700	7100	10092						
16	8000	1300	3040							15800	9350	11763						
17	9000	1500	3527							15200	8350	11579						
18	8750	1800	3844							14300	8450	11256						
19	9100	2000	4031							13300	8350	10863						
20	7300	2200	4073							14600	8750	10944						
21	8100	2200	4010							15200	9250	11390						
22	8250	2300	4098							13100	7900	10175						
23	6300	2400	3838							14200	7900	10394						
24	7000	2850	4479							14700	8250	11006						
25	7300	2750	4769							13600	7300	9983						
26	6350	2500	4054							15500	7300	11360						
27	6850	2550	4065							14400	7900	10448						
28	5250	1900	2990							15100	7750	11127						
29	7000	1400	3171							13800	8400	10710						
30	9200	1400	4631							13000	7500	9684						
31	9400	1750	5540															

1-5165. COREY CREEK NEAR MAINESBURG, PA.

LOCATION.--Lat 41°47'25", long 77°00'55", at gaging station, 1.1 miles downstream from Mainesburg, Tioga County, 3.5 miles east of Mansfield, and 4.5 miles upstream from mouth.
DRAINAGE AREA.--12.2 square miles.
RECORDS AVAILABLE.--Water temperatures: October 1958 to September 1962.
Sediment records: May 1954 to September 1967.
EXTREMES, 1966-67.--Sediment concentrations: Maximum daily, 260 ppm Nov. 28; minimum daily, 1 ppm on many days in October, November and April.
Sediment loads: Maximum daily, 150 tons Nov. 28; minimum daily, less than 0.05 ton on many days.
EXTREMES, 1954-67.--Water temperatures (1958-62): Maximum, 93°F on several days during August 1959; minimum, freezing point on many days during winter months.
Sediment concentrations: Maximum daily, 1,440 ppm Apr. 5, 1957; minimum daily, 0 ppm on many days.
Sediment loads: Maximum daily, 1,940 tons Oct. 14, 1955; minimum daily, 0 tons on many days.
REMARKS.--Records of specific conductance, pH and temperature of periodic sediment samples available in the WRD office at Harrisburg, Pa. Station established May 1954 as an index station for the Corey Creek Watershed Project and part of an SCS Pilot Watershed study of Corey Creek. Flow affected by ice Dec. 3-6, 16, 17, 20, 22, Dec. 24 to Jan. 21, Jan. 30 to Feb. 2, Feb. 6 to Mar. 14 and Mar. 18-24.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
Jan. 18, 1967..	1.7	4.7		0.01	0.00	25	3.5	5.0	1.6	58	28	9.5	0.1	2.0	112	77	30		188	6.9	2
May 26.....	8.7	2.7		.00	.10	16	2.0	2.8	1.1	34	19	4.8	.0	.5	85	48	20		113	6.6	2

Particle-size analyses of suspended sediment, water year October 1966 to September 1967
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters: 0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	Method of analysis
Mar. 11, 1967.....	1400	34		80	523			35	49	64	77	90	96	99	100			SCBW

1-5165. COREY CREEK NEAR MAINESBURG, PA.--Continued

Suspended sediment, water year October 1966 to September 1967
(Where no daily concentrations are reported, loads are estimated)

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	1.8	8	T	0.3	1	T	19	12	0.6
2	.9	7	T	.4	1	T	14	12	.4
3	.7	6	T	1.2	2	T	9.0	10	.2
4				.7	1	T	7.0	8	.2
5	.5	6	T	.5	1	T	6.0	6	.1
6	.5	5	T	.6	1	T	6.0	4	.1
7	.4	4	T	.5	1	T	6.3	4	.1
8	.4	4	T	.6	1	T	7.1	4	.1
9	.3	4	T	1.0	2	T	5.5	4	.1
10	.3	4	T	1.0	2	T	6.0	5	.1
11	.4	2	T	2.7	3	T	20	--	.8
12	.4	1	T	1.6	2	T	9.3	10	.2
13	.4	1	T	1.0	2	T	9.3	10	.2
14	.3	1	T	1.0	2	T	8.0	8	.2
15	.3	1	T	.7	1	T	7.1	8	.2
16	.3	1	T	.7	1	T	7.0	7	.1
17	.4	1	T	.8	1	T	6.0	7	.1
18	.4	1	T	1.2	2	T	6.8	6	.1
19	.4	1	T	1.0	2	T	5.8	6	.1
20	.5	1	T	.7	1	T	5.4	5	.1
21	.4	1	T	.6	1	T	5.1	5	.1
22	.4	1	T	.6	1	T	4.7	4	.1
23	.4	1	T	.7	2	T	4.4	4	T
24	.4	1	T	.7	2	T	4.0	4	T
25	.4	1	T	.7	2	T	3.7	4	T
26	.4	1	T	.7	2	T	3.5	4	T
27	.4	1	T	.7	2	T	3.3	4	T
28	.4	1	T	93	260 S	150	3.1	4	T
29	.3	1	T	75	50	10	3.2	4	T
30	.3	1	T	27	12	.9	3.1	4	T
31	.3	1	T	--	--	--	3.0	4	T
TOTAL	14.3	--	0.1	217.9	--	161.0	211.7	--	4.6

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	2.8	5	T	12	19	0.6	3.1	5	T
2	2.7	5	T	14	22	.8	3.1	6	0.1
3	2.8	4	T	20	18	1.0	3.3	8	.1
4	2.8	4	T	16	20	.9	3.6	7	.1
5	2.7	4	T	11	14	.4	4.6	8	.1
6	2.5	4	T	8.0	13	.3	6.0	9	.1
7	2.3	4	T	6.4	12	.2	5.4	7	.1
8	2.4	4	T	5.8	12	.2	5.0	5	.1
9	2.5	4	T	5.4	12	.2	6.0	5	.1
10	2.4	9	0.1	5.4	12	.2	33	79 S	12
11	2.2	5	T	5.6	12	.2	42	200 S	30
12	2.0	4	T	5.4	10	.1	15	60	2.4
13	1.8	4	T	5.0	8	.1	8.2	--	.3
14	1.9	4	T	5.4	8	.1	30	--	8.0
15	1.9	4	T	6.2	20	.3	63	70 B	12
16	1.9	4	T	26	25	1.8	42	--	4.0
17	1.8	3	T	13	20 B	.7	32	--	3.0
18	1.7	3	T	10	8	.2	26	--	2.0
19	1.6	3	T	8.2	7	.2	21	--	1.0
20	1.6	3	T	7.2	6	.1	19	8	.4
21	2.0	7	T	6.2	5	.1	17	6	.3
22	3.5	8	.1	5.4	5	.1	15	5	.2
23	5.3	9	.1	4.9	5	.1	14	4	.2
24	6.0	10	.2	4.4	5	.1	14	4	.2
25	6.3	10	.2	4.0	5	.1	29	25	2.0
26	5.5	8	.1	3.7	4	T	70	--	10
27	14	52 S	3.2	3.4	4	T	52	--	7.0
28	22	20	1.2	3.2	4	T	94	80 A	20
29	17	--	.7	--	--	--	121	45 B	15
30	13	12	.4	--	--	--	63	--	--
31	11	12	.4	--	--	--	46	--	--
TOTAL	149.9	--	7.2	231.2	--	9.2	906.3	--	130.8

S Computed by subdividing day.
T Less than 0.05 ton.
A Computed from partly estimated-concentration graph.
B Computed from estimated-concentration graph.

1-5165. COREY CREEK NEAR MAINESBURG, PA.--Continued

Suspended sediment, water year October 1966 to September 1967--Continued
(Where no daily concentrations are reported, loads are estimated)

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	39	8	0.8	11	6	0.2	6.6	8	0.1
2	33	7	.6	33	56 S	14	5.8	6	.1
3	26	6	.4	34	18	1.6	5.1	6	.1
4	21	6	.3	20	12	.6	4.2	6	.1
5	18	5	.2	17	6	.3	3.7	6	.1
6	41	--	3.0	17	6	.3	3.3	5	.1
7	24	5	.3	29	15	1.2	2.8	5	T
8	22	4	.2	29	8	.6	2.3	5	T
9	18	4	.2	27	8	.6	7.4	16	.3
10	20	5	.3	22	8	.5	6.0	14	.2
11	14	3	.1	33	15	1.3	3.3	8	.1
12	12	1	T	26	12	.8	2.6	8	.1
13	11	1	T	18	8	.4	2.5	8	.1
14	12	1	T	16	6	.2	1.8	8	T
15	11	1	T	87	170 S	51	1.7	8	T
16	9.0	1	T	47	20 B	2.5	1.6	6	T
17	15	4	.2	31	12	1.0	1.4	6	T
18	18	5	.2	23	14	.9	5.3	12	.2
19	15	4	.2	38	9	.9	3.0	11	.1
20	12	2	.1	33	8	.7	2.3	6	T
21	11	1	T	22	6	.4	1.7	5	T
22	14	1	T	19	5	.2	2.0	6	T
23	10	1	T	16	4	.2	1.8	5	T
24	14	3	.1	12	4	.1	1.3	4	T
25	12	2	.1	10	4	.1	2.0	4	T
26	10	1	T	8.7	4	.1	1.6	4	T
27	22	--	.9	7.4	3	.1	1.1	4	T
28	15	12	.5	6.3	3	.1	.9	4	T
29	13	10	.4	18	22 S	1.3	1.3	4	T
30	12	8	.2	12	12	.4	1.2	4	T
31	--	--	--	8.0	8	.2	--	--	--
TOTAL	524.0	--	9.6	730.4	--	82.8	87.6	--	2.1

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	1.0	4	T	1.4	4	T	0.9	4	T
2	2.3	4	T	1.0	2	T	.7	4	T
3	3.0	4	T	2.3	110 S	1.8	.6	4	T
4	1.8	4	T	4.0	20 A	.2	.5	3	T
5	9.3	--	0.3	1.8	4	T	.5	3	T
6	3.5	6	.1	1.4	4	T	.5	3	T
7	2.3	6	T	1.3	4	T	.4	2	T
8	1.8	6	T	1.2	4	T	.4	2	T
9	2.0	6	T	1.2	3	T	.4	2	T
10	2.5	6	T	1.3	3	T	.9	6	T
11	2.8	6	T	1.1	3	T	.6	5	T
12	2.6	5	T	1.0	3	T	.5	4	T
13	1.7	4	T	.9	2	T	.5	2	T
14	1.6	4	T	.9	2	T	.4	2	T
15	10	--	.5	.8	2	T	.4	2	T
16	6.0	10	.2	.6	2	T	.4	2	T
17	3.5	5	.1	.4	2	T	.4	2	T
18	2.8	6	T	.4	2	T	.4	2	T
19	2.2	5	T	.5	3	T	.4	2	T
20	1.7	5	T	1.0	6	T	.4	2	T
21	2.3	4	T	1.6	8	T	.4	2	T
22	2.5	3	T	.8	4	T	.5	2	T
23	1.7	3	T	.6	2	T	.5	2	T
24	2.2	3	T	.5	4	T	.5	2	T
25	2.0	2	T	.8	4	T	.5	2	T
26	1.4	2	T	.8	6	T	.5	2	T
27	1.2	2	T	1.4	8	T	.4	2	T
28	1.4	2	T	1.6	8	T	1.3	8	T
29	1.4	2	T	1.0	6	T	4.0	10	0.1
30	1.3	2	T	.7	4	T	1.3	6	T
31	1.1	2	T	1.3	6	T	--	--	--
TOTAL	82.9	--	1.8	35.6	--	2.3	20.1	--	0.2

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 3211.9
TOTAL LOAD FOR YEAR (TONS) 411.7

S Computed by subdividing day.
T Less than 0.05 ton.
A Computed from partly estimated-concentration graph.
B Computed from estimated-concentration graph.

1-5170. ELK RUN NEAR MAINESBURG, PA.

LOCATION.--Lat 41°48'50", long 76°57'55", at gaging station, 2.7 miles northeast of Mainesburg, Tioga County, 5.8 miles east of Mansfield and 5.5 miles upstream from mouth.
DRAINAGE AREA.--10.2 square miles.
RECORDS AVAILABLE.--Water temperatures: November 1956 to September 1962.
Sediment records: May 1954 to September 1967.
EXTREMES, 1966-67.--Sediment concentrations: Maximum daily, 340 ppm Nov. 28; minimum daily, 1 ppm Nov. 15 and 16.
Sediment loads: Maximum daily, 240 tons Nov. 28; minimum daily, less than 0.05 ton on many days.
EXTREMES, 1954-67.--Water temperatures (1956-62): Maximum daily, 84°F July 27, 1958; minimum daily, freezing point on many days during winter months.
Sediment concentrations: Maximum daily, 1,070 ppm Mar. 31, 1962; minimum daily, no flow on many days.
Sediment loads: Maximum daily, 856 tons Mar. 31, 1962; minimum daily, 0 tons on many days.
REMARKS.--Station established May 1954 as an external control for the SCS Pilot Watershed study of Corey Creek which is adjacent to Elk Run. Records of specific conductance, pH, and temperature of periodic sediment samples available in WRD office at Harrisburg, Pa. Flow affected by ice Nov. 21-23, Dec. 2-4, 16, 19, 20, 22, Dec. 24 to Jan. 22, Jan. 29 to Mar. 20 and Mar. 24, 25.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
Jan. 18, 1967..	0.80	2.7		0.00	0.00	21	2.8	4.5	1.6	45	25	8.0	0.1	1.4	93	64	27		154	6.6	2
May 26.....	6.0	3.3		.00	.00	15	2.1	2.7	1.8	32	19	5.6	.2	.4	71	46	20		111	6.5	10

Particle-size analyses of suspended sediment, water year October 1966 to September 1967
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters: 0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	Method of analysis
Nov. 28, 1966.....	1500	52		102	828		33	48	66	78	84	95	98	99	100			SCPW
Mar. 11, 1967.....	1720	35		64	265			37	55	71	83	94	96	98	99	100		SCBW

1-5170. ELK RUN NEAR MAINESBURG, PA.--Continued

Suspended sediment, water year October 1966 to September 1967
(Where no daily concentrations are reported, loads are estimated)

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	0.8	8	T	0.1	2	T	14	10 B	0.4
2	.8	7	T	.2	2	T	10	8	.2
3	.5	6	T	.3	2	T	6.5	7	.1
4	.4	6	T	.2	2	T	5.2	4	.1
5	.4	4	T	.2	2	T	4.8	4	.1
6	.3	3	T	.2	2	T	4.8	4	.1
7	.2	2	T	.2	2	T	6.2	6	.1
8	.2	2	T	.3	3	T	6.9	6	.1
9	.2	2	T	.8	11	T	5.1	5	.1
10	.2	2	T	.8	11	T	4.9	5	.1
11	.2	2	T	2.2	12	0.1	17	--	.5
12	.2	2	T	1.7	10	T	8.2	6	.1
13	.2	2	T	1.0	6	T	6.9	5	.1
14	.2	2	T	1.0	4	T	6.9	4	.1
15	.2	2	T	.6	1	T	6.5	4	.1
16	.2	2	T	.4	1	T	6.4	4	.1
17	.2	2	T	.6	2	T	6.2	4	.1
18	.2	2	T	1.4	6	T	6.5	4	.1
19	.3	2	T	1.3	6	T	5.0	3	T
20	.3	2	T	1.0	4	T	4.6	4	T
21	.2	2	T	.9	4	T	4.2	3	T
22	.2	2	T	.9	4	T	3.6	3	T
23	.2	2	T	.9	4	T	3.2	3	T
24	.2	2	T	.8	4	T	3.0	3	T
25	.2	2	T	1.0	4	T	2.8	4	T
26	.2	2	T	1.0	4	T	2.6	3	T
27	.2	2	T	1.0	4	T	2.4	2	T
28	.2	2	T	142	340 S	240	2.3	2	T
29	.1	2	T	87	59	14	2.5	2	T
30	.1	2	T	26	--	1.0	2.4	2	T
31	.1	2	T	--	--	--	2.3	2	T
TOTAL	8.1	--	0.1	276.0	--	255.4	173.9	--	2.9

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	2.2	2	T	11	3	0.1	2.6	8	0.1
2	2.1	2	T	13	4	.1	2.6	8	.1
3	2.2	2	T	16	4	.2	2.7	10	.1
4	2.1	2	T	11	4	.1	3.1	8	.1
5	2.0	2	T	8.0	4	.1	3.6	6	.1
6	1.8	2	T	6.0	4	.1	5.0	--	.2
7	1.6	2	T	5.0	4	.1	4.3	8	.1
8	1.8	6	T	4.6	4	T	4.0	6	.1
9	2.0	6	T	4.3	4	T	4.9	6	.1
10	1.8	5	T	4.3	4	T	26	77 S	14
11	1.4	5	T	4.5	3	T	28	150 S	20
12	1.2	4	T	4.2	3	T	10	70 S	3.5
13	1.0	3	T	4.0	3	T	4.8	10	.1
14	1.2	3	T	4.5	3	T	21	42 S	3.8
15	1.2	3	T	5.2	24	.3	35	38	3.6
16	1.2	3	T	21	19	1.1	27	27	2.0
17	1.0	3	T	11	10	.3	23	20	1.2
18	.8	3	T	8.0	10	.2	20	--	1.0
19	.7	3	T	6.6	10	.2	18	15	.7
20	.7	3	T	6.0	10	.2	16	13	.6
21	1.0	3	T	5.2	10	.1	15	8	.3
22	2.6	3	T	4.6	10	.1	14	8	.3
23	5.5	3	T	4.1	9	.1	13	8	.3
24	5.8	5	0.1	3.7	9	.1	11	8	.2
25	5.8	5	.1	3.3	9	.1	17	25	1.1
26	5.5	5	.1	3.1	10	.1	75	--	50
27	17	98 S	6.8	2.8	9	.1	46	--	20
28	20	14	.8	2.7	8	.1	100	200 S	110
29	13	--	.3	--	--	--	129	180 S	89
30	10	--	.2	--	--	--	62	20 B	3.3
31	9.0	3	.1	--	--	--	45	18	2.2
TOTAL	125.2	--	8.8	187.7	--	4.2	788.6	--	328.2

S Computed by subdividing day.
T Less than 0.05 ton.
B Computed from estimated-concentration graph.

1-5170. ELK RUN NEAR MAINESBURG, PA.--Continued

Suspended sediment, water year October 1966 to September 1967--Continued
(Where no daily concentrations are reported, loads are estimated)

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	37	18	1.8	8.4	8	0.2	4.4	5	0.1
2	31	10	.8	28	--	1.0	3.9	5	.1
3	23	5	.3	26	10	.7	3.5	5	T
4	15	5	.2	15	6	.2	3.1	5	T
5	12	4	.1	14	5	.2	2.7	4	T
6	43	78 S	16	15	4	.2	2.3	4	T
7	23	8	.5	29	--	1.0	2.1	3	T
8	18	3	.1	25	4	.3	2.0	3	T
9	15	3	.1	25	3	.2	5.2	--	.3
10	17	8	.4	22	3	.2	5.5	60 A	.9
11	12	8	.2	31	17 S	1.8	3.1	8	.1
12	8.9	8	.2	23	9	.6	3.5	8	.1
13	8.4	8	.2	17	8	.4	4.8	8	.1
14	8.4	8	.2	15	6	.2	2.5	5	T
15	7.5	8	.2	82	120 S	42	2.3	4	T
16	6.4	6	.1	36	12 B	1.2	2.9	4	T
17	10	--	.3	26	9	.6	2.1	3	T
18	13	--	.4	21	8	.4	3.7	--	.1
19	11	10	.3	34	65 S	10	3.1	10	.1
20	8.9	8	.2	26	20	1.4	2.7	10	.1
21	7.1	8	.2	18	10	.5	1.8	8	T
22	9.9	8	.2	15	9	.4	1.8	6	T
23	7.5	8	.2	13	8	.3	1.8	5	T
24	9.4	8	.2	9.9	7	.2	1.3	5	T
25	9.9	8	.2	8.0	6	.1	2.3	12 B	.1
26	8.0	8	.2	6.0	5	.1	1.8	11	.1
27	18	--	.6	4.8	4	.1	1.3	10	T
28	14	10	.4	4.4	4	T	1.0	9	T
29	11	8	.2	12	18 S	.8	1.2	9	T
30	9.9	8	.2	8.8	8	.2	1.8	9	T
31	--	--	--	5.1	6	.1	--	--	--
TOTAL	433.2	--	25.2	623.4	--	65.6	81.5	--	2.7

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	1.2	9	T	0.8	6	T	0.8	4	T
2	1.4	9	T	.6	6	T	.6	4	T
3	3.1	12	0.1	.8	6	T	.5	4	T
4	1.8	10	T	2.2	16	0.1	.4	4	T
5	15	--	.7	1.0	10	T	.4	4	T
6	3.9	26	.3	.7	8	T	.4	4	T
7	2.7	12	.1	.5	8	T	.3	4	T
8	2.1	9	.1	.6	8	T	.3	4	T
9	3.4	--	.2	.6	6	T	.4	4	T
10	3.5	--	.3	.8	4	T	.6	4	T
11	3.1	--	.2	.5	3	T	.5	4	T
12	2.7	12	.1	.5	2	T	.4	4	T
13	1.8	10	T	.4	2	T	.4	4	T
14	1.6	10	T	.4	4	T	.3	4	T
15	5.5	36 S	.9	.3	6	T	.3	4	T
16	3.9	15	.2	.3	6	T	.3	4	T
17	2.9	12	.1	.3	6	T	.3	4	T
18	2.5	12	.1	.3	6	T	.3	4	T
19	1.8	11	.1	.3	6	T	.3	4	T
20	1.2	10	T	.4	8	T	.3	4	T
21	1.8	--	.1	1.0	10	T	.3	4	T
22	2.5	5	T	.6	8	T	.4	4	T
23	1.6	2	T	.4	7	T	.4	4	T
24	1.8	2	T	.4	4	T	.3	4	T
25	2.0	2	T	.5	2	T	.3	4	T
26	1.3	2	T	.7	4	T	.3	4	T
27	1.0	2	T	1.2	8	T	.2	4	T
28	1.0	3	T	1.3	6	T	.5	5	T
29	1.3	3	T	.9	5	T	1.8	--	0.1
30	1.0	4	T	.6	5	T	.8	5	T
31	.8	5	T	.9	5	T	--	--	--
TOTAL	81.2	--	4.0	20.8	--	0.4	13.4	--	0.2

TOTAL DISCHARGE FOR YEAR (CFS-DAYS).....2813.0
TOTAL LOAD FOR YEAR (TONS).....697.7

S Computed by subdividing day.
T Less than 0.05 ton.
A Computed from partly estimated-concentration graph.
B Computed from estimated-concentration graph.

1-5345. LACKAWANNA RIVER AT ARCHBALD, PA.

LOCATION.--Lat 41°30'15", long 75°32'35", at gaging station on right bank in Archbald, Lackawanna County, 0.5 mile upstream from White Oak Run and Gilmartin Street Bridge.
DRAINAGE AREA.--108 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1963 to September 1967.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 12, 1966..	23	19	4.5	1.0	1.5	29	18	7.0	3.0	0	145	7.0	16	1.5	277	147	147	0.7	409	4.1	2
Dec. 1.....	225	7.3	--	.04	.68	15	9.5	3.5	1.6	2	65	4.0	4.0	2.1	129	77	75	--	199	5.9	2
Jan. 11, 1967..	104	11	1.3	.03	1.6	33	25	5.0	2.4	3	186	6.0	6.0	.1	326	186	183	--	423	5.0	4
Feb. 21.....	123	9.5	1.0	.00	.98	23	15	5.5	1.7	2	110	7.0	8.0	.7	208	119	118	--	293	5.2	2
Apr. 5.....	862	4.4	.2	.00	.00	12	7.4	3.4	1.0	8	56	4.3	.4	1.7	A115	61	54	--	164	5.6	6
May 9B.....	423	4.9	--	.00	.34	15	10	3.5	1.2	6	70	5.1	2.0	1.3	B129	79	74	--	192	5.8	--
June 21.....	90	--	--	--	--	-	--	C6.2	--	2	160	4.5	--	.2	--	161	160	--	365	5.5	2
Aug. 10.....	93	6.0	--	.00	.00	20	11	6.5	1.6	14	81	5.0	1.4	3.4	155	95	84	--	234	6.8	2
Sept. 14.....	66	8.5	1.3	.12	1.9	32	28	6.2	2.4	0	193	5.5	5.6	2.1	322	195	195	--	445	4.5	2

A Includes 0.70 ppm of zinc (Zn).
B Includes 5.0 ppm of zinc (Zn).
C Calculated Na plus K, reported as Na.

1-5360. LACKAWANNA RIVER AT OLD FORGE, PA.

LOCATION.--Lat 41°21'30", long 75°44'40", at highway bridge, 600 feet upstream from gaging station which is 150 feet upstream from Delaware, Lackawanna, and Western Railroad bridge in Old Forge, Lackawanna County, and 0.5 mile upstream from St. Johns Creek.
DRAINAGE AREA.--332 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1947 to September 1951, October 1958 to September 1961, October 1966 to September 1967.
REMARKS.--Records of specific conductance and pH of daily samples available in district office at Philadelphia, Pa.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 17, 1966..	55	11	0.7	0.08	1.2	30	19	21	7.5	36	142	17	7.0	2.8	279	153	124		463	6.3	2
Nov. 30.....	470	6.2	.2	.05	.60	13	5.3	8.0	2.0	19	45	8.0	1.6	3.7	110	55	39		181	6.3	2
Jan. 4, 1967...	162	8.4	.3	.05	.96	21	13	16	2.7	10	109	20	.0	.2	210	106	98		349	5.6	4
Feb. 21.....	313	8.7	.8	.01	.48	21	10	19	2.6	3	88	23	3.6	9.5	202	94	91		302	5.3	5
Apr. 10.....	900	6.5	--	.00	.65	19	9.3	6.3	1.6	6	75	7.8	1.6	3.8	168	86	81		220	5.7	3
May 12.....	1520	3.6	.0	.00	.00	12	5.0	4.5	1.1	3	45	6.8	.7	2.1	101	51	48		141	5.8	2
May 17.....	1040	4.4	--	.03	.22	13	7.6	5.8	1.6	8	54	7.0	1.2	3.7	121	64	58		178	6.2	--
June 27.....	213	--	--	--	--	--	--	A6.2	--	6	96	9.5	--	4.7	--	109	104		276	5.8	2
Aug. 1.....	180	4.7	--	.00	.00	18	9.5	5.5	2.8	17	69	10	1.0	1.2	144	84	70		226	6.9	4
Sept. 19.....	97	13	.4	.11	.06	28	17	18.	3.4	6	134	16	3.2	12	267	140	135		395	5.7	6

A Calculated Na plus K, reported as Na.

1-5360. LACKAWANNA RIVER AT OLD FORGE, PA.--Continued

Periodic determinations of suspended-sediment discharge and particle-size, water year October 1966 to September 1967
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Mar. 10, 1967	1245	45		436	63	74		--	--	--	--	--	--	--	--	--	--	
Mar. 10	1400	46		454	59	72		--	--	--	--	--	--	--	--	--	--	
Mar. 10	1600	49		549	153	227		--	--	--	--	--	--	--	--	--	--	
Mar. 10	1800	46		625	235	396		--	--	--	--	--	--	--	--	--	--	
Mar. 10	2000	45		683	299	551		--	--	--	--	--	--	--	--	--	--	
Mar. 10	2200	43		706	266	507		--	--	--	--	--	--	--	--	--	--	
Mar. 11	0045	41		729	276	543		--	--	--	--	--	--	--	--	--	--	
May 11	1800	47		1260	142	483		--	--	--	--	--	--	--	--	--	--	
May 11	1900	47		1390	210	788		--	--	--	--	--	--	--	--	--	---	
May 11	2010	47		1440	215	836		27	34	42	49	54	64	73	87	94	100	SCBW
May 11	2200	47		1580	222	947		--	--	--	--	--	--	--	--	--	--	
May 12	0050	46		1650	331	1470		--	--	--	--	--	--	--	--	--	--	
May 12	0410	45		1700	297	1360		--	--	--	--	--	--	--	--	--	--	
May 12	0615	45		1670	223	1000		15	21	29	37	45	57	68	82	94	100	SCBW
May 12	0815	46		1610	170	739		--	--	--	--	--	--	--	--	--	--	
May 12	1005	46		1560	159	670		--	--	--	--	--	--	--	--	--	--	
May 12	1300	49		1490	118	475		--	--	--	--	--	--	--	--	--	--	
May 12	1540	52		1420	94	360		--	--	--	--	--	--	--	--	--	--	
May 12	2100	48		1340	88	318		--	--	--	--	--	--	--	--	--	--	
May 13	0700	45		1200	48	156		--	--	--	--	--	--	--	--	--	--	

1-5390. FISHING CREEK NEAR BLOOMSBURG, PA.

LOCATION.--Lat 41°04'40", long 76°25'55", sediment samples are collected at highway bridge, 25 feet upstream from the gaging station, 0.8 mile downstream from Green Creek, 0.9 mile west of Orangeville, and 5.5 miles north of Bloomsburg, Columbia County.
DRAINAGE AREA.--274 square miles.
RECORDS AVAILABLE.--Sediment records: October 1966 to September 1967.
EXTREMES, 1966-67.--Sediment concentrations: Maximum daily, 240 ppm Mar. 15; minimum daily, 1 ppm on many days during November and April to September.
Sediment loads: Maximum daily, 2,100 tons Mar. 15; minimum daily, less than 0.50 ton on many days during October, November, and June to September.
REMARKS.--Records of specific conductance, pH, and temperature of sediment samples available in the WRD office at Harrisburg, Pa. Miscellaneous determinations of suspended-sediment discharge collected prior to the 1967 water year are published in part 2 of the 1966 water quality records report for Pennsylvania.

Chemical analyses, in parts per million, water year Octoer 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
																Calcium, magnesium	Noncarbonate				
May 2, 1967....	486							A3.0		10	11	2.5		1.7		18	10		52	6.4	3

A Calculated Na plus K, reported as Na.

Particle-size analyses of suspended sediment, water year October 1966 to September 1967
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Nov. 29, 1966.....	0155	45		1320	208			49	64	78	91	95	98	99	100			SCBW
Jan. 28, 1967.....	0440	37		1560	72			--	--	--	--	96	99	100	--			S
Mar. 6.....	1920	33		365	35			--	--	--	--	99	99	100	--			S
Mar. 15.....	1955	34		4080	210			38	52	67	82	90	95	99	100			SCBW

1-5390. FISHING CREEK NEAR BLOOMSBURG, PA.--Continued

Suspended sediment, water year October 1966 to September 1967
(Where no daily concentrations are reported, loads are estimated)

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	259	--	4	89	4	1	815	4	9
2	434	--	7	91	5	1	660	2	4
3	305	--	4	350	26 S	34	509	2	3
4	246	--	3	405	8	9	422	2	2
5	215	--	3	300	4	3	371	2	2
6	183	--	3	240	3	2	361	2	2
7	158	--	2	210	2	1	344	2	2
8	143	--	2	200	2	1	366	2	2
9	133	--	2	270	3	2	339	2	2
10	127	--	2	350	4	4	310	2	2
11	122	--	2	1300	21	74	603	13 S	23
12	115	5	2	850	20	46	555	5	7
13	108	4	1	600	1	2	490	5	7
14	99	2	1	410	1	1	484	5	6
15	93	2	1	350	1	1	452	5	6
16	91	2	T	305	1	1	399	5	5
17	102	2	1	277	1	1	371	5	5
18	95	2	1	272	1	1	361	5	5
19	122	6	2	250	1	1	344	5	5
20	226	6	4	219	1	1	300	5	4
21	183	6	3	197	1	1	324	5	4
22	155	5	2	183	1	T	270	5	4
23	140	5	2	173	1	T	259	5	3
24	133	4	1	167	1	T	220	5	3
25	125	4	1	161	1	T	230	5	3
26	117	4	1	170	1	T	210	5	3
27	113	4	1	161	1	T	200	5	3
28	108	4	1	246	29 S	50	190	5	2
29	104	4	1	1400	69 S	260	180	5	2
30	97	4	1	1070	8	23	180	5	2
31	93	4	1	--	--	--	170	5	2
TOTAL	4744	--	62	11266	--	524	11289	--	134

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	170	5	2	627	6	10	150	3	1
2	160	5	2	573	6	9	150	3	1
3	160	5	2	566	5	8	160	3	1
4	150	5	2	468	5	6	190	4	2
5	150	5	2	458	5	6	210	5	3
6	140	5	2	419	5	6	260	54 S	41
7	130	5	2	303	5	4	310	11	9
8	140	5	2	290	5	4	310	7	6
9	150	5	2	280	4	3	300	5	4
10	140	5	2	260	4	3	400	18 S	25
11	130	5	2	250	4	3	872	43 S	120
12	120	5	2	240	3	2	1740	180 S	920
13	120	5	2	230	3	2	1650	31 S	140
14	130	5	2	220	3	2	1470	20 S	80
15	130	5	2	250	4	3	2850	240 S	2100
16	120	5	2	349	5	5	2960	53 S	450
17	110	4	1	312	5	4	2040	16	88
18	100	4	1	281	4	3	1450	9	35
19	90	4	1	261	3	2	1050	9	26
20	85	4	1	240	3	2	925	7	17
21	100	5	1	220	3	2	811	6	13
22	110	5	1	210	2	1	692	4	7
23	140	5	2	200	2	1	641	3	5
24	244	10 B	6	180	2	1	599	3	5
25	509	14	19	170	2	1	634	8	14
26	668	14	25	160	2	1	819	14	31
27	740	39 S	100	150	2	1	1080	14	41
28	1480	46 S	180	160	3	1	1090	6	18
29	1280	15	52	--	--	--	1450	13	51
30	907	9	22	--	--	--	1560	8	34
31	662	13 A	23	--	--	--	1420	7	27
TOTAL	9465	--	467	8327	--	96	30243	--	4315

S Computed by subdividing day.
T Less than 0.50 ton.
A Computed from partly estimated-concentration graph.
B Computed from estimated-concentration graph.

1-5390. FISHING CREEK NEAR BLOOMSBURG, PA.--Continued

Suspended sediment, water year October 1966 to September 1967--Continued
(Where no daily concentrations are reported, loads are estimated)

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	1380	6	22	522	4	6	363	2	2
2	1300	6	21	486	4	5	330	2	2
3	1090	5	15	794	16 S	35	308	2	2
4	819	5	11	634	6	10	277	2	1
5	684	5	9	560	4	6	256	2	1
6	692	5	9	586	3	5	236	2	1
7	699	5	9	1010	39 S	150	217	2	1
8	620	5	8	1680	13	59	202	2	1
9	528	5	7	1350	11	40	184	2	1
10	504	5	7	1070	9	26	171	2	1
11	452	5	6	1150	12 S	49	155	2	1
12	409	5	6	1580	22 S	100	143	2	1
13	378	4	4	1240	9	30	131	2	1
14	378	3	3	1030	3	8	129	2	1
15	363	3	3	1200	12 S	50	126	2	1
16	335	2	2	1440	15 S	61	121	2	1
17	335	2	2	1120	6	18	155	2	1
18	528	5	7	954	6	15	164	3	1
19	463	3	4	863	5	12	290	14 S	13
20	404	3	3	1270	44 S	160	232	7	4
21	378	2	2	898	3	7	167	2	1
22	419	1	1	778	3	6	140	1	T
23	419	1	1	669	2	4	730	--	30
24	409	1	1	580	1	2	480	--	6
25	450	1	1	510	1	1	317	3	2
26	480	8 B	10	452	1	1	244	2	1
27	620	14	23	409	1	1	198	2	1
28	745	14 B	28	363	1	1	171	2	1
29	655	6	11	465	6 S	10	149	2	1
30	580	5	8	612	6	10	146	2	1
31	--	--	--	424	2	2	--	--	--
TOTAL	17516	--	244	26699	--	890	6932	--	82

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	143	2	1	269	5	4	430	1	1
2	146	2	1	221	2	1	354	1	1
3	394	15 S	17	463	44 S	87	303	1	1
4	232	3	2	753	27 S	55	265	1	1
5	188	2	1	1550	54 S	230	232	1	1
6	164	1	T	1020	--	200	206	1	1
7	140	1	T	655	--	30	188	1	1
8	124	1	T	498	10 B	13	174	1	T
9	116	1	T	424	9	10	161	1	T
10	261	26 S	18	458	4	5	232	2	1
11	317	10 S	11	335	2	2	217	2	1
12	480	12 S	18	277	2	1	164	1	T
13	308	2	2	244	2	1	143	1	T
14	240	2	1	225	2	1	131	1	T
15	221	2	1	198	1	1	118	1	T
16	252	2	1	174	1	T	108	1	T
17	198	1	1	158	1	T	101	1	T
18	167	1	T	146	1	T	96	1	T
19	149	1	T	143	1	T	92	1	T
20	137	1	T	143	1	T	87	1	T
21	164	1	T	256	2	1	87	1	T
22	155	1	T	188	2	1	221	--	8
23	143	1	T	152	1	T	171	--	4
24	167	2	1	134	1	T	140	5	2
25	188	1	1	252	7	5	126	3	1
26	167	1	T	330	5	4	113	2	1
27	134	1	T	236	45	29	101	2	1
28	158	2	1	1990	88 S	530	99	2	1
29	317	3	2	1090	9	26	273	18 S	12
30	265	2	1	699	2	4	261	3	2
31	206	1	1	528	1	1	--	--	--
TOTAL	6441	--	87	14209	--	1245	5394	--	45

TOTAL DISCHARGE FOR YEAR (CFS-DAYS)..... 152525
TOTAL LOAD FOR YEAR (TONS)..... 8191

S Computed by subdividing day.
T Less than 0.50 ton.
B Computed from estimated-concentration graph.

1-5405. SUSQUEHANNA RIVER AT DANVILLE, PA.

LOCATION.--Lat 40°57'30", long 76°37'10", at Mill Street bridge on State Highway 54 at Danville, Montour County, 0.8 mile upstream from Mahoning Creek.
DRAINAGE AREA.--11,220 square miles, approximately.
RECORDS AVAILABLE.--Chemical analyses: October 1945 to June 1953, October 1956 to September 1967.
Water temperatures: October 1945 to June 1953, October 1956 to September 1967.
EXTREMES, 1966-67.--Specific conductance: Maximum daily, 557 micromhos Nov. 1; minimum daily, 118 micromhos Apr. 1.
Water temperatures: Maximum, 85°F July 3 and Aug. 10; minimum, 33°F Jan. 18, 19, Feb. 13.
EXTREMES, 1945-53, 1956-67.--Dissolved solids (1945-47, 1958-60): Maximum, 346 ppm July 31 and Aug. 1-16, 1959; minimum, 68 ppm May 21-31, 1946.
Hardness (1945-47, 1949-53, 1956-60): Maximum, 232 ppm Nov. 1-10, 1952; minimum, 35 ppm Mar. 31 to Apr. 7, 1960.
Specific conductance: Maximum daily, 1,030 micromhos Sept. 26, 29-30, 1964; minimum daily, 81 micromhos Apr. 2, 1960.
Water temperatures: Maximum, 89°F June 30, 1959; minimum, freezing point on many days during winter months.
REMARKS.--Where no potassium (K) is reported, sodium (Na) and potassium (K) are calculated and reported as sodium (Na).

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
																Calcium, magnesium	Noncarbonate				
Oct. 1-5, 1966.	2730	4.0		0.00	0.00	50	16	15	2.6	39	167	17	0.4	5.3	321	191	159		461	6.8	3
Nov. 1-10.....	2320							19		46	172	17		4.7		205	168		480	6.6	1
Dec. 1-10.....	12370							11		36	72	10		4.5		98	69		249	6.5	5
Jan. 1-10, 1967	5840							9.9		49	73	12		4.2		115	75		282	6.5	4
Feb. 1-10.....	17100							20		32	71	9.5		4.0		74	48		202	7.0	12
Mar. 1-10.....	6880							11		42	73	13		4.7		110	76		274	6.6	4
Apr. 1-10.....	46950							4.8		28	30	5.5		2.8		54	31		134	6.7	8
May 2-10.....	22290							6.9		38	47	8.0		2.1		78	47		194	6.8	3
June 1-10.....	8200							8.3		46	78	9.0		1.5		114	77		271	6.9	3
July 1-10.....	5560							10		50	90	14		1.6		133	92		332	7.1	8
Aug. 1-10.....	10420							12		58	67	12		2.2		111	64		278	6.8	7
Sept. 1-10.....	5820							8.3		50	83	10		2.1		125	84		312	7.3	8
Analysis of additional sample																					
Aug. 21.....	3720	3.6		0.02	0.00	34	13	7.2	2.1	52	98	10	0.0	0.6	205	139	96		324	7.1	3

1-5405. SUSQUEHANNA RIVER AT DANVILLE, PA.--Continued

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Station	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	pH	Temperature (°F)
Nov. 29, 1966.....	120	21	0	24		134	6.2	43
	465	38	0	100		317	6.5	43
	650	32	0	112		324	6.4	43
	850	21	0	98		282	6.4	43
	1220	13	0	39		157	6.2	43
Jan. 9, 1967.....	120	46	0	32		239	6.7	34
	465	47	0	73		271	7.6	34
	650	43	0	76		270	6.7	34
	850	33	0	76	11	262	6.6	34
	1220	22	0	60		216	6.5	34
Feb. 27.....	650	34	0	76		269	6.9	34
	1220	23	0	75		237	6.8	34
May 2.....	120	37	0	42		173	7.3	58
	465	41	0	48		199	7.4	58
	650	40	0	51		202	6.6	58
	850	36	0	53		202	6.9	58
	1220	25	0	50		180	6.5	58
June 15.....	120	57	0	83		308	6.9	76
	465	59	0	96		329	7.1	76
	650	53	0	100		327	6.9	76
	850	48	0	101		322	7.3	76
	1220	40	0	96		300	6.9	75

Specific conductance (micromhos at 25°C), water year October 1966 to September 1967

Day	October	November	December	January	February	March	April	May	June	July	August	September
1.....	468	557	215	310	162	300	118	--	227	317	312	232
2.....	473	542	219	289	179	301	119	202	238	326	311	253
3.....	453	469	244	274	190	287	121	214	246	328	304	301
4.....	459	350	264	273	195	279	125	207	268	345	286	330
5.....	450	445	260	277	197	283	126	191	279	320	284	314
6.....	--	522	267	277	200	269	137	191	281	344	215	306
7.....	--	535	273	271	206	253	143	199	282	333	232	303
8.....	--	530	278	274	217	263	149	201	294	338	230	309
9.....	--	518	268	266	228	267	158	180	308	286	265	322
10.....	--	351	250	271	243	268	158	160	310	297	265	335
11.....	--	303	243	274	260	259	163	167	324	304	260	341
12.....	485	460	202	269	269	257	168	157	336	309	269	354
13.....	482	470	256	274	254	183	180	148	340	274	289	347
14.....	491	436	220	277	261	159	192	141	331	310	274	339
15.....	498	388	202	287	282	152	202	146	334	258	285	324
16.....	512	368	206	295	259	145	204	153	327	267	298	314
17.....	506	355	215	286	286	138	217	139	324	283	292	319
18.....	505	290	218	273	259	148	216	145	337	303	315	329
19.....	479	287	228	290	220	161	219	141	318	303	330	351
20.....	498	384	243	294	248	173	198	150	301	299	335	354
21.....	495	380	234	300	248	178	189	162	300	302	337	360
22.....	524	367	236	313	241	185	182	165	290	321	351	366
23.....	542	--	241	341	--	192	188	171	304	326	368	374
24.....	548	--	245	318	--	202	194	174	291	346	353	381
25.....	540	--	249	287	--	207	194	182	283	345	361	381
26.....	538	--	264	266	--	221	199	193	269	345	342	384
27.....	532	--	271	221	--	223	195	206	278	351	332	376
28.....	524	--	288	185	283	187	192	221	295	343	329	366
29.....	525	356	287	157	--	160	--	230	308	328	274	368
30.....	524	343	300	153	--	130	--	233	299	321	143	364
31.....	511	--	287	154	--	121	--	238	--	297	191	--
Average	502	416	247	267	--	211	173	180	297	315	291	336

Temperature (°F) of water, water year October 1966 to September 1967

MONTH	DAY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER..	55	58	58	52	51	--	--	--	--	--	--	55	56	60	60	58	54	50	50	52	53	55	55	58	56	55	55	55	52	50	49	54
NOVEMBER.	52	52	54	47	47	48	54	48	53	55	55	50	49	47	47	46	48	49	46	45	44	44	--	--	--	--	--	--	--	48	45	-- 48
DECEMBER.	43	40	39	34	39	36	38	40	43	45	44	40	44	42	38	38	38	38	38	36	36	36	36	36	35	34	34	34	34	34	34	37
JANUARY..	34	35	35	37	37	35	35	36	35	35	34	35	34	35	36	35	35	33	33	34	34	36	36	38	39	40	40	40	37	37	36	35
FEBRUARY.	38	37	35	36	35	36	36	34	34	36	36	34	33	34	35	36	35	37	34	35	35	35	--	--	--	--	--	38	--	--	--	35
MARCH....	34	34	36	36	36	37	38	36	36	37	39	37	35	37	38	37	37	34	34	35	35	36	36	36	38	38	40	40	41	41	40	36
APRIL....	42	43	45	44	45	45	46	45	46	46	43	42	44	44	45	47	47	47	45	45	44	47	47	46	42	45	45	44	--	--	--	44
MAY.....	--	48	50	50	51	51	48	47	40	54	47	45	45	47	47	47	48	48	50	53	53	53	53	53	53	53	54	55	57	56	55	50
JUNE.....	56	57	59	60	63	65	63	67	66	70	72	73	74	72	71	72	75	73	75	69	70	71	70	71	72	72	70	74	72	70	--	68
JULY.....	74	74	71	70	69	69	70	70	73	74	75	74	74	74	74	69	70	71	72	74	74	75	75	76	75	75	75	76	75	75	73	73
AUGUST...	74	74	75	75	75	74	71	73	74	74	70	70	70	69	69	70	72	72	75	75	70	71	73	70	70	69	70	67	68	66	68	71
SEPTEMBER	64	65	68	64	66	66	67	70	69	68	64	63	63	63	64	65	68	70	70	70	71	74	64	61	68	68	63	65	65	63	--	66

1-5410. WEST BRANCH SUSQUEHANNA RIVER AT BOWER, PA.

LOCATION.--Lat 40°53'50", long 78°40'40", at gaging station on highway (T 418) bridge at Bower, Clearfield County, 4.6 miles downstream from Chest Creek and Mahaffey.
DRAINAGE AREA.--315 square miles.
RECORDS AVAILABLE.--Sediment records: February 1964 to February 1967 (discontinued).
EXTREMES, October 1966 to February 1967.--Sediment concentrations: Maximum daily, 270 ppm Nov. 11; minimum daily, 1 ppm Oct. 26-31.
Sediment loads: Maximum daily, 1,100 tons Dec. 8; minimum daily, less than 0.50 ton Oct. 25-31.
EXTREMES, February 1964 to February 1967.--Sediment concentrations: Maximum daily, 500 ppm Mar. 5, 1964; minimum daily, 1 ppm on many days.
Sediment loads: Maximum daily, 14,000 tons Mar. 10, 1964; minimum daily, less than 0.50 ton on many days.
REMARKS.--Chemical analyses of periodic samples (1944-45, 1959-60) available in the WRD office at Philadelphia, Pa. Records of intermittent sediment data (1962-64) available in the WRD office at Harrisburg, Pa. Records of specific conductanc, pH, and temperature of sediment samples available in the WRD office at Harrisburg, Pa. Flow affected by ice Dec. 3-5, Dec. 25 to Jan. 26, Jan. 30 to Feb. 1, and Feb. 7 to Feb. 24.

Suspended sediment, October 1966 to February 1967
(Where no daily concentrations are reported, loads are estimated)

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	312	55 S	68	47	4	1	579	17	26
2	332	49 S	49	55	5	1	492	14	18
3	182	7	3	114	--	3	320	--	10
4	132	6	2	120	--	3	280	--	10
5	109	5	1	87	5	1	260	--	10
6	92	5	1	90	5	1	340	--	20
7	79	5	1	107	6	2	1100	--	200
8	72	5	1	134	13 S	5	2770	150	1100
9	67	5	1	336	40 S	35	1770	48	230
10	84	6	1	336	30 S	28	1190	27 S	86
11	88	5	1	1060	270 S	770	1240	33 S	110
12	72	5	1	658	63	110	900	18	44
13	64	5	1	420	20	23	711	15	29
14	62	5	1	312	14	12	608	14	23
15	58	5	1	249	13	9	514	14	19
16	58	5	1	208	13	7	424	23	26
17	55	5	1	182	12	6	395	19	20
18	56	5	1	165	11	5	351	15	14
19	62	5	1	149	10	4	315	21	18
20	67	6	1	130	10	4	288	18	14
21	65	5	1	111	10	3	258	16	12
22	60	5	1	103	10	3	240	15	10
23	58	4	1	105	10	3	214	14	8
24	55	4	1	109	10	3	182	14	7
25	51	3	T	102	10	3	180	--	5
26	51	2	T	111	11	3	170	--	5
27	49	2	T	112	11	3	170	--	5
28	48	2	T	689	69 S	210	150	--	4
29	47	2	T	1200	85	280	160	--	5
30	48	2	T	750	24	49	150	--	4
31	45	2	T	--	--	--	140	--	4
TOTAL	2680	--	144	8351	--	1590	16861	--	2097

S Computed by subdividing day.
T Less than 0.50 ton.

1-5410. WEST BRANCH SUSQUEHANNA RIVER AT BOWER, PA.--Continued

Suspended sediment, October 1966 to February 1967--Continued
(Where no daily concentrations are reported, loads are estimated)

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	150	--	4	800	48 S	110			
2	150	--	4	1190	39 S	130			
3	140	--	4	1480	69 S	280			
4	140	--	4	1130	20	61			
5	130	--	3	969	15	39			
6	120	--	3	821	13	29			
7	130	--	3	520	15	21			
8	130	--	3	400	16	17			
9	130	--	3	350	16	15			
10	120	--	3	390	15	16			
11	130	--	3	340	15	14			
12	130	--	3	280	14	10			
13	120	--	3	240	13	8			
14	130	--	3	220	12	7			
15	130	--	3	300	23 S	20			
16	130	--	3	900	110 S	260			
17	120	--	3	800	46	99			
18	110	--	2	700	22	42			
19	90	--	2	600	16	26			
20	110	--	2	560	21	32			
21	130	--	3	500	22	30			
22	150	--	4	440	16	19			
23	190	--	8	380	20	20			
24	240	--	10	330	18	16			
25	260	37 S	27	--	--	--			
26	240	13	8	--	--	--			
27	463	25 S	42	--	--	--			
28	1160	110 S	360	--	--	--			
29	822	31	69	--	--	--			
30	560	19	29	--	--	--			
31	460	21 S	27	--	--	--			
TOTAL	7215	--	648	14640	--	1321			

TOTAL DISCHARGE FOR PERIOD (CFS-DAYS).....49747
TOTAL LOAD FOR PERIOD (TONS).....5800

S Computed by subdividing day.

1-5430. DRIFTWOOD BRANCH SINNEMAHONING CREEK AT STERLING RUN, PA.

LOCATION.--Lat 41°24'45", long 78°11'50", at gaging station on downstream side of first pier from right bank of highway bridge at Sterling Run, Cameron County, 300 feet upstream from Sterling Run.
DRAINAGE AREA.--272 square miles.
RECORDS AVAILABLE.--Sediment records: October 1963 to September 1967 (periodic).
REMARKS.--Records of specific conductance, pH, and temperature of sediment samples available in WRD office at Harrisburg, Pa. Flow affected by ice Nov. 19-21, Dec. 3-6, Dec. 24 to Feb. 1, Feb. 9-14, and Feb. 21 to Mar. 4.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
																Calcium, magnesium	Noncarbonate				
Mar.27, 1967...	1280	5.1		0.00	0.04	6.0	1.8	1.8	0.9	9	16	3.6	0.0	0.0	41	23	15		63	6.8	1
Sept. 26.....	22	.7		.00	.00	12	2.8	5.8	1.6	25	19	10	.0	.1	68	42	21		116	7.1	4

1-5430. DRIFTWOOD BRANCH SINNEMAHONING CREEK AT STERLING RUN, PA.--Continued

Periodic determinations of suspended-sediment discharge and particle-size, water year October 1966 to September 1967
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;
P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Oct. 9, 1966	--	--		15	2	T		--	--	--	--	--	--	--	--			
Oct. 11	--	--		23	1	T		--	--	--	--	--	--	--	--			
Oct. 23	--	--		23	1	T		--	--	--	--	--	--	--	--			
Oct. 29	--	--		15	3	T		--	--	--	--	--	--	--	--			
Nov. 2	--	--		19	8	T		--	--	--	--	--	--	--	--			
Nov. 8	--	--		60	9	1		--	--	--	--	--	--	--	--			
Nov. 9	--	--		250	38	26		--	--	--	--	--	--	--	--			
Nov. 10	--	--		204	12	7		--	--	--	--	--	--	--	--			
Nov. 11	0715	50		531	80	--		--	--	--	--	93	98	100	--			S
Nov. 11	--	--		395	50	53		--	--	--	--	--	--	--	--			
Nov. 12	--	--		240	6	4		--	--	--	--	--	--	--	--			
Nov. 13	--	--		157	3	1		--	--	--	--	--	--	--	--			
Nov. 16	--	--		76	3	1		--	--	--	--	--	--	--	--			
Nov. 17	--	--		70	2	T		--	--	--	--	--	--	--	--			
Nov. 28	--	--		406	43	S 110		--	--	--	--	--	--	--	--			
Nov. 29	--	--		839	43	S 100		--	--	--	--	--	--	--	--			
Nov. 30	--	--		538	10	14		--	--	--	--	--	--	--	--			
Dec. 6	--	--		230	2	1		--	--	--	--	--	--	--	--			
Dec. 7	--	--		369	15	A 15		--	--	--	--	--	--	--	--			
Dec. 8	1740	42		3090	130	--		--	--	--	--	80	92	100	--			S
Dec. 8	--	--		2720	120	A 880		--	--	--	--	--	--	--	--			
Dec. 9	--	--		2880	49	380		--	--	--	--	--	--	--	--			
Dec. 10	--	--		1850	14	70		--	--	--	--	--	--	--	--			
Dec. 11	--	--		1850	20	100		--	--	--	--	--	--	--	--			
Jan. 25, 1967	--	--		220	10	6		--	--	--	--	--	--	--	--			
Feb. 2	--	--		958	24	62		--	--	--	--	--	--	--	--			
Feb. 11	--	--		330	1	1		--	--	--	--	--	--	--	--			
Feb. 19	--	--		503	4	5		--	--	--	--	--	--	--	--			
Mar. 9	--	--		517	10	14		--	--	--	--	--	--	--	--			
Mar. 10	--	--		522	8	11		--	--	--	--	--	--	--	--			
Mar. 12	--	--		1510	35	140		--	--	--	--	--	--	--	--			
Mar. 13	--	--		1020	27	74		--	--	--	--	--	--	--	--			
Mar. 14	--	--		1170	23	S 110		--	--	--	--	--	--	--	--			
Mar. 15	--	--		3840	140	S 1500		--	--	--	--	--	--	--	--			
Mar. 27	--	--		1280	7	24		--	--	--	--	--	--	--	--			
Mar. 28	2340	45		5100	180	--		24	33	43	56	74	85	97	100			SCBW

S Computed by subdividing day.
T Less than 0.50 ton.
A Computed from partly estimated-concentration graph.

1-5430. DRIFTWOOD BRANCH SINNEMAHONING CREEK AT STERLING RUN, PA.--Continued

Periodic determinations of suspended-sediment discharge and particle-size, water year October 1966 to September 1967--Continued
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;
P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Mar. 28, 1967	--	--		2310	54	S 450		--	--	--	--	--	--	--	--			
Mar. 29	--	--		5050	140	S 2000		--	--	--	--	--	--	--	--			
Mar. 30	--	--		3180	32	270		--	--	--	--	--	--	--	--			
Apr. 18	--	--		660	2	4		--	--	--	--	--	--	--	--			
Apr. 30	--	--		557	1	2		--	--	--	--	--	--	--	--			
May 3	--	--		536	4	6		--	--	--	--	--	--	--	--			
May 7	--	--		560	3	4		--	--	--	--	--	--	--	--			
May 8	--	--		1120	12	36		--	--	--	--	--	--	--	--			
May 11	--	--		1070	10	29		--	--	--	--	--	--	--	--			
May 12	--	--		1540	15	62		--	--	--	--	--	--	--	--			
May 13	--	--		1350	10	36		--	--	--	--	--	--	--	--			
May 14	--	--		1090	5	15		--	--	--	--	--	--	--	--			
May 25	--	--		360	1	1		--	--	--	--	--	--	--	--			
June 3	--	--		234	7	4		--	--	--	--	--	--	--	--			
June 19	--	--		123	3	1		--	--	--	--	--	--	--	--			
July 10	--	--		107	2	1		--	--	--	--	--	--	--	--			
July 11	--	--		670	78	S 270		--	--	--	--	--	--	--	--			
July 11	2245	--		1260	90	--		61	76	85	92	97	99	100	--			SCBW
July 12	--	--		764	25	52		--	--	--	--	--	--	--	--			
July 27	--	--		268	5	4		--	--	--	--	--	--	--	--			
July 30	--	--		188	4	2		--	--	--	--	--	--	--	--			
Aug. 12	--	--		70	5	1		--	--	--	--	--	--	--	--			
Sept. 10	--	--		43	5	1		--	--	--	--	--	--	--	--			
Sept. 26	--	--		22	3	T		--	--	--	--	--	--	--	--			
Sept. 27	--	--		19	3	T		--	--	--	--	--	--	--	--			
Sept. 28	--	--		6800	280	S 12000		--	--	--	--	--	--	--	--			
Sept. 29	1335	55		6680	130	--		41	53	66	76	84	92	99	100			SCBW
Sept. 29	--	--		8670	220	S 6800		--	--	--	--	--	--	--	--			
Sept. 30	--	--		2110	30	170		--	--	--	--	--	--	--	--			

S Computed by subdividing day.
T Less than 0.50 ton.

1-5435. SINNEMAHONING CREEK AT SINNEMAHONING, PA.

LOCATION.--Lat 41°19'00", long 78°06'10", at gaging station on left bank 0.2 mile upstream from Grove Run, and 0.7 mile upstream from Pennsylvania Railroad bridge at Sinnemahoning, Cameron County.
DRAINAGE AREA.--685 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1960 to September 1967.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 10, 1966..	70	--	--	--	--	--	--	A30	--	0	153	14	0.0	0.6	231	108	108	0.8	391	3.8	1
Jan. 11, 1967..	320	7.1	1.8	0.01	0.94	17	6.5	7.0	1.1	0	90	7.0	.2	.8	140	69	69	.6	248	4.0	2
Jan. 15.....	270	6.9	1.1	.00	.65	15	4.8	3.5	1.1	0	65	5.7	.1	.1	104	57	57	.4	183	4.4	2
Feb. 28.....	500	6.2	1.0	.04	.44	13	4.7	3.0	1.0	1	56	5.0	.1	.3	100	52	51	--	159	4.6	2
Mar. 28.....	5260	--	--	--	--	--	--	A3.4	--	4	28	3.0	--	.2	--	29	26	--	81	5.9	4
May 3.....	1480	4.4	1.0	.08	.02	9.2	3.5	2.2	1.0	1	43	2.5	.0	.0	82	38	37	--	122	4.6	1
June 21.....[B]	228	30	--	.10	.39	14	4.3	10	1.4	4	62	9.5	.0	.2	128	53	49	--	180	5.9	2
July 27.....	516	5.6	--	.00	.32	11	3.9	3.0	1.2	3	45	4.0	.0	.0	84	44	41	--	123	5.2	6
Sept. 14.....	70	4.7	1.6	.05	1.5	23	11	5.7	1.7	0	121	10	.2	.0	207	103	103	.8	345	3.9	1

A Calculated Na plus K, reported as Na.
B Includes 0.11 ppm of phosphate (PO_4).

1-5455. WEST BRANCH SUSQUEHANNA RIVER AT RENOVO, PA.

LOCATION.--Lat 41°19'30", long 77°45'05", sediment samples are collected at the Eighth Street Bridge in Renovo, Clinton County, 1 mile upstream from Paddy Run. The gaging station is located on the left bank at the upstream side of the same bridge.
DRAINAGE AREA.--2,975 square miles.
RECORDS AVAILABLE.--Sediment records: January 1966 to September 1967 (periodic).
REMARKS.--Records of specific conductance, pH, and temperature of sediment samples available in the WRD office at Harrisburg, Pa. Flow affected by ice Feb. 8-16 and Feb. 24 and Mar. 5.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 17, 1966..	474	9.1	6.8	0.13	4.9	54	26	8.5	2.3	0	308	10	0.2	1.1	448	242	242	1.4	708	3.6	2
Mar. 27, 1967..	11200	6.9	2.0	.04	1.6	22	11	3.3	1.4	0	120	6.0	.1	1.3	188	100	100	.6	325	3.8	1
Sept. 27.....	682	8.2	--	.20	2.2	55	27	11	2.2	0	256	6.5	.1	.0	394	248	248	.8	643	3.8	2

1-5455. WEST BRANCH SUSQUEHANNA RIVER AT RENOVO, PA.--Continued

Periodic determinations of suspended-sediment discharge, water year October 1966 to September 1967
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Jan. 26, 1967				3240	12	100												
Jan. 27				3360	6	54												
Jan. 28				5440	18	260												
Jan. 29				7160	33	640												
Jan. 30				6730	20	360												
Jan. 31				6140	10	160												
Feb. 3				9850	32	S 870												
Feb. 4				10600	33	S 950												
Feb. 10				4200	9	100												
Feb. 24				3500	7	66												
Mar. 3				2400	4	26												
Mar. 6				11000	53	S 2300												
Mar. 7				19500	230	S 12000												
Mar. 8				16800	87	S 4100												
Mar. 9				13600	38	1400												
Mar. 10				12100	22	720												
Mar. 11				14400	25	970												
Mar. 12				19200	37	1900												
Mar. 13				24800	62	4200												
Mar. 14				24200	32	2100												
Mar. 15				31300	30	S 2700												
Mar. 16				35800	75	S 7200												
Mar. 17				29500	36	S 2800												
Mar. 24				6810	14	260												
Mar. 27				11200	14	420												
Mar. 28				16400	28	1200												
Mar. 29				30200	69	5600												
Mar. 30				28000	35	2600												
Mar. 31				21000	13	740												
Apr. 1				16800	9	410												
Apr. 7				8060	12	260												
Apr. 14				9790	6	160												
Apr. 19				9430	13	330												
Apr. 20				8610	8	180												
Apr. 21				7910	8	170												
Apr. 28				9610	22	S 600												

S Computed by subdividing day.

1-5455. WEST BRANCH SUSQUEHANNA RIVER AT RENOVO, PA.--Continued

Periodic determinations of suspended-sediment discharge, water year October 1966 to September 1967--Continued
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Apr. 29, 1967				10300	12	330												
May 3				8610	16	370												
May 5				6640	4	72												
May 8				11200	14	420												
May 9				14100	23	880												
May 12				16800	32	1500												
May 13				17200	32	1500												
May 19				10500	6	170												
May 25				5320	1	14												
May 26				4930	1	13												
June 2				3580	1	10												
June 9				2000	1	5												
June 12				1690	1	4												
June 16				1880	1	5												
June 19				1480	2	8												
June 21				1680	11	S 81												
June 22				2900	31	S 240												
July 17				1620	1	4												
July 28				2840	9	69												
July 30				4090	1	11												
Aug. 4				1850	3	15												
Aug. 14				1260	1	3												
Aug. 19				699	1	2												
Aug. 25				726	1	2												
Aug. 26				708	1	2												
Aug. 27				1480	1	4												
Aug. 28				3320	9	81												
Aug. 29				4730	21	270												
Aug. 30				3490	6	56												
Aug. 31				2520	2	14												
Sept. 1				2290	1	6												
Sept. 8				900	1	2												
Sept. 15				597	1	2												
Sept. 22				811	1	2												
Sept. 27				682	3	6												
Sept. 28				1250	58	S 1100												
Sept. 29				36000	570	S 58000												
Sept. 30				19500	62	3300												

S Computed by subdividing day.

1-5458. WEST BRANCH SUSQUEHANNA RIVER AT LOCK HAVEN, PA.

LOCATION.--Lat 41°08'20", long 77°26'30", at center of Lockport Bridge, Lock Haven, Clinton County, and 30.1 miles downstream from gaging station at Renovo, Pa.
DRAINAGE AREA.--3,337 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1945 to September 1951, October 1958 to September 1967.
Water temperatures: October 1945 to September 1951, October 1958 to September 1967.
EXTREMES, 1966-67.--Specific conductance: Maximum daily, 728 micromhos Oct. 25; minimum daily, 135 micromhos Mar. 30.
Water temperatures: Maximum, 80°F June 13; minimum, freezing point Dec. 24, Feb. 19.
EXTREMES, 1945-51, 1958-67.--Dissolved solids (1945-47): Maximum, 262 ppm Sept. 21-30, 1946; minimum, 51 ppm Mar. 1-10, 1946.
Hardness (1945-47, 1949-51, 1958-59): Maximum, 206 ppm Sept. 11-20, 1951; minimum, 28 ppm Apr. 1-10, 1950.
Specific conductance: Maximum daily, 1,010 micromhos Dec. 29, 1962; minimum daily, 73 micromhos Apr. 6, 1947.
Water temperatures: Maximum, 88°F June 29, 1959 and July 19, 1964; minimum, freezing point on many days during winter months.
REMARKS.--Records of discharge are based on records for West Branch Susquehanna River at Renovo, Pa. Where no potassium (K) is reported, sodium (Na) and potassium (K) are calculated and reported as sodium (Na).

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 1-5, 7-10, 1966	1400	9.1	5.0	0.12	3.6	52	22	11	2.8	0	270	9.0	0.2	0.6	409	220	220	1.0	623	3.8	3
Nov. 1-10	1050	9.3	6.3	.08	5.0	60	25	9.0	2.4	0	300	11	.0	1.8	454	253	253	1.4	700	3.6	2
Dec. 1-10	9060	--	--	--	--	--	--	--	--	0	76	5.5	--	1.5	--	68	68	1.8	201	3.3	6
Jan. 1, 3-10, 1967	1410	--	--	--	--	--	--	--	--	0	16	7.0	--	1.3	--	114	114	.6	334	4.0	4
Feb. 1-5, 7-10	7830	--	--	--	--	--	--	6.0	--	1	68	6.5	--	1.5	--	69	68	.2	179	4.8	3
Mar. 1-4, 6-10	10310	--	--	--	--	--	--	--	--	0	92	5.5	--	.8	--	83	83	.5	247	4.2	2
Apr. 1-10	11110	--	--	--	--	--	--	--	--	0	75	4.5	--	1.7	--	69	--	.4	202	4.4	1
May 1-10	10400	--	--	--	--	--	--	--	--	0	65	4.0	--	.2	--	69	69	.3	184	4.4	2
June 1-10	3110	--	--	--	--	--	--	--	--	0	104	3.0	--	.6	--	95	95	.6	263	4.1	2
July 11-20	2660	--	--	--	--	--	--	--	--	0	122	5.0	--	.4	--	108	108	.4	302	4.2	4
Aug. 1-10	2320	--	--	--	--	--	--	--	--	0	129	5.5	--	1.1	--	119	119	.4	315	4.3	2
Sept. 1-10	1470	--	--	--	--	--	--	--	--	0	165	6.0	--	1.1	--	148	148	1.6	390	4.1	4

1-5458. WEST BRANCH SUSQUEHANNA RIVER AT LOCK HAVEN, PA.--Continued

Specific conductance (micromhos at 25°C), water year October 1966 to September 1967

Day	October	November	December	January	February	March	April	May	June	July	August	September
1.....	709	704	207	345	185	297	157	182	268	311	326	319
2.....	670	684	173	--	162	298	173	189	282	327	336	330
3.....	625	722	178	341	173	296	182	176	305	293	321	398
4.....	659	717	205	366	167	291	202	192	281	--	302	417
5.....	616	718	219	351	170	--	216	190	272	308	327	417
6.....	--	711	224	331	--	309	212	170	266	322	321	--
7.....	563	695	214	337	182	229	221	177	264	373	333	405
8.....	606	696	233	342	175	173	246	200	278	381	279	438
9.....	610	669	209	327	188	196	239	166	296	361	322	424
10.....	579	619	158	313	194	214	218	178	306	359	300	422
11.....	617	364	151	328	172	220	219	164	325	358	301	392
12.....	604	311	163	339	198	209	188	178	332	327	310	456
13.....	625	265	--	359	223	182	181	172	330	234	358	476
14.....	613	242	173	356	240	178	183	165	339	396	358	498
15.....	598	234	186	341	225	170	193	170	293	276	363	504
16.....	634	231	195	334	214	159	216	172	299	253	360	498
17.....	616	234	199	336	268	172	206	162	217	259	392	496
18.....	636	238	226	338	270	168	229	166	188	259	376	526
19.....	620	251	--	368	237	210	200	173	192	317	399	543
20.....	623	263	--	391	211	222	249	208	206	337	421	570
21.....	660	269	--	392	210	236	228	--	232	312	361	568
22.....	665	277	261	366	218	246	207	--	258	285	382	570
23.....	--	288	278	289	221	247	219	185	178	310	425	582
24.....	698	297	289	311	247	263	217	223	172	320	456	583
25.....	728	--	294	320	258	247	211	--	205	325	432	538
26.....	722	310	317	323	279	307	209	241	--	323	479	516
27.....	714	332	308	281	291	258	176	251	--	336	432	534
28.....	711	203	--	156	269	233	179	247	259	436	267	534
29.....	694	157	339	179	--	161	208	248	276	290	364	174
30.....	713	212	344	185	--	135	200	249	289	283	374	211
31.....	--	--	374	185	--	144	--	273	--	423	322	--
Average	647	410	235	317	216	222	206	195	264	323	358	459

1-5458. WEST BRANCH SUSQUEHANNA RIVER AT LOCK HAVEN, PA.--Continued

Daily pH, water year October 1966 to September 1967

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	3.6	3.7	4.6	4.0	4.8	4.2	4.5	4.5	4.4	4.2	4.5	4.5
2.....	3.6	3.7	4.8	--	5.7	4.2	4.4	4.8	4.3	4.1	4.1	4.8
3.....	3.8	3.6	4.7	4.2	4.9	4.2	4.4	4.5	4.2	4.2	4.4	4.3
4.....	3.6	3.6	4.5	4.0	4.8	4.0	4.3	4.5	4.2	--	4.8	3.9
5.....	3.7	3.6	4.4	4.0	4.7	--	4.3	4.8	4.3	4.8	4.4	4.0
6.....	--	3.6	4.3	4.3	--	4.1	4.4	4.7	5.8	4.3	4.2	--
7.....	3.8	3.6	4.4	4.2	4.7	4.4	4.5	4.5	4.8	4.1	4.2	4.4
8.....	3.7	3.6	4.3	4.2	4.8	4.5	4.3	4.9	4.4	4.3	4.0	4.0
9.....	3.7	3.6	4.4	4.3	4.7	4.5	4.4	4.6	4.1	4.0	4.2	4.2
10.....	3.8	3.7	4.6	4.5	4.6	4.6	4.6	5.5	4.2	4.0	4.6	4.0
11.....	3.7	4.2	4.6	4.4	5.0	4.4	4.4	4.5	4.0	4.0	4.7	4.4
12.....	3.8	4.5	4.6	4.4	4.8	4.4	4.4	4.5	3.9	4.7	4.4	4.0
13.....	3.7	4.4	--	4.3	4.5	4.7	4.5	4.6	4.0	4.4	4.0	4.0
14.....	3.7	4.4	4.6	4.3	4.4	4.5	4.5	4.6	4.0	3.5	4.0	3.8
15.....	3.9	4.5	4.6	4.4	4.6	4.7	4.5	5.2	4.2	4.0	4.3	3.7
16.....	3.6	4.5	4.5	4.4	4.8	4.5	4.4	4.4	4.0	4.4	4.4	4.0
17.....	3.7	4.4	4.8	4.4	4.3	4.5	5.3	4.7	4.7	4.4	4.1	4.0
18.....	3.6	4.5	4.2	4.5	4.2	4.9	4.3	4.5	5.0	4.2	4.4	4.0
19.....	3.7	4.5	--	4.5	4.4	4.2	4.4	4.6	4.0	4.2	4.1	3.8
20.....	3.6	4.3	--	4.2	4.5	4.2	4.2	4.2	5.2	4.0	4.0	3.8
21.....	3.6	4.5	--	4.2	4.4	4.1	4.6	--	4.0	4.5	4.2	3.7
22.....	3.6	4.4	4.3	4.5	4.4	4.2	4.6	--	4.2	4.5	4.5	3.8
23.....	--	4.5	4.2	4.6	4.3	4.2	4.4	4.7	4.7	4.0	4.2	3.8
24.....	3.6	4.3	4.1	4.4	4.3	4.1	4.4	4.4	4.6	4.0	4.0	3.7
25.....	3.6	--	4.1	4.3	4.3	4.0	4.4	--	4.5	4.0	4.2	3.8
26.....	3.5	4.2	4.1	4.2	4.2	4.0	4.4	--	--	4.1	3.6	3.8
27.....	3.6	4.1	4.1	6.0	4.1	4.2	4.7	4.2	--	4.0	4.0	3.8
28.....	3.5	6.2	--	6.3	4.2	4.5	4.4	4.3	4.2	3.9	4.6	3.9
29.....	3.6	5.6	4.0	4.9	--	4.6	4.4	4.3	4.2	4.2	4.1	4.5
30.....	3.6	4.5	4.0	4.8	--	4.6	4.5	4.3	4.4	4.2	4.2	4.3
31.....	--	--	4.0	4.8	--	4.6	--	4.4	--	4.1	4.3	--

MAXIMUM VALUE = 6.30 MINIMUM VALUE = 3.50

Temperature (°F) of water, water year October 1966 to September 1967

MONTH	DAY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER..	57	53	52	54	57	--	55	55	57	58	59	59	53	55	58	58	57	50	50	50	49	51	--	53	53	51	50	50	50	49	--	53
NOVEMBER.	49	49	49	48	46	43	43	43	43	45	46	52	47	46	46	44	44	47	47	41	40	39	39	38	--	42	42	45	46	40	--	44
DECEMBER.	41	40	38	35	34	34	35	36	35	45	42	40	--	40	39	40	38	38	--	--	--	35	34	32	35	35	34	--	33	34	34	36
JANUARY..	35	--	34	34	35	34	39	34	34	35	35	35	35	35	36	35	35	35	34	34	35	35	35	35	35	35	35	35	35	35	35	34
FEBRUARY.	35	35	36	35	36	--	36	35	35	34	35	35	33	34	35	35	35	34	32	35	35	35	35	35	35	35	35	35	--	--	--	34
MARCH....	35	35	35	36	--	35	36	36	36	37	37	36	36	36	36	38	37	37	37	36	35	35	37	38	40	43	45	46	46	46	47	38
APRIL....	48	46	47	49	48	50	52	52	52	53	54	53	50	50	52	52	53	51	49	49	50	51	50	49	50	51	50	51	50	50	--	50
MAY.....	52	52	54	55	55	52	49	49	50	50	49	50	50	50	52	53	55	55	57	58	--	--	59	59	--	63	62	62	65	63	63	55
JUNE.....	64	64	66	67	68	70	73	74	75	75	75	77	80	79	--	79	78	70	69	69	72	74	73	76	74	--	--	72	70	70	--	72
JULY.....	72	75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	77	76	76	75	75	74	76	75	76	74	73	75	--
AUGUST...	75	77	77	78	78	76	75	79	78	76	74	74	69	74	72	73	75	76	76	75	75	75	79	73	71	69	69	68	66	69	68	73
SEPTEMBER	68	68	68	68	68	--	75	74	73	68	68	67	66	67	68	70	71	72	73	72	73	73	63	61	60	60	69	67	66	62	--	68

SUSQUEHANNA RIVER BASIN--Continued

1-5465. SPRING CREEK NEAR AXEMANN, PA.

LOCATION.--Lat 40°53'25", long 77°47'40", sediment samples are collected at the highway bridge, 1.6 miles west of Axemann, Centre County, 1.7 miles southwest of Bellefonte, and 2.5 miles upstream from Logan Branch. Gaging station on right bank at upstream side of bridge.
DRAINAGE AREA.--87.2 square miles.
RECORDS AVAILABLE.--Sediment records: March 1964 to September 1967 (periodic).
REMARKS.--Records of specific conductance, pH, and temperature of sediment samples available in the WRD office at Harrisburg, Pa.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
																Calcium, magnesium	Noncarbonate				
Mar. 6, 1967...	169	35		0.00	0.00	48	10	12	3.2	142	26	19	0.8	18	259	161	45		359	7.9	9
Mar. 27.....	153	6.2		.00	.00	50	16	3.8	1.6	184	23	8.5	.0	11	218	191	40		361	8.2	2
Sept. 26.....	37	4.7		.00	.00	55	19	8.0	2.5	225	19	13	.0	17	261	215	31		431	8.2	1

1-5465. SPRING CREEK NEAR AXEMANN, PA.--Continued

Periodic determinations of suspended-sediment discharge and particle-size, water year October 1966 to September 1967
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Oct. 23, 1966	1130	54		30	16	1.3		--	--	--	--	--	--	--				
Oct. 30	1515	49		27	10	.7		--	--	--	--	--	--	--				
Nov. 9	0930	48		37	9	.9		--	--	--	--	--	--	--				
Nov. 9	1330	55		35	11	1.0		--	--	--	--	--	--	--				
Nov. 9	1545	53		33	13	1.2		--	--	--	--	--	--	--				
Nov. 27	1645	41		24	6	.4		--	--	--	--	--	--	--				
Nov. 29	1330	41		69	53	9.9		--	--	--	--	--	--	--				
Nov. 29	1645	41		84	51	12		--	--	--	--	--	--	--				
Dec. 5	1415	37		39	6	.6		--	--	--	--	--	--	--				
Dec. 13	1100	36		48	7	.9		--	--	--	--	--	--	--				
Jan. 10, 1967	1510	38		35	4	.4		--	--	--	--	--	--	--				
Jan. 16	1045	36		34	3	.3		--	--	--	--	--	--	--				
Jan. 23	0930	49		33	13	1.2		--	--	--	--	--	--	--				
Jan. 30	1600	38		49	6	.8		--	--	--	--	--	--	--				
Feb. 4	1050	38		57	8	1.2		--	--	--	--	--	--	--				
Feb. 21	1435	40		59	7	1.1		--	--	--	--	--	--	--				
Feb. 27	1635	35		53	11	1.6		--	--	--	--	--	--	--				
Mar. 6	1130	40		200	815	440		10	19	33	66	98	99	100				SBN
Mar. 6	1130	40		200	815	440		49	64	79	94	98	99	100				SCBW
Mar. 8	1600	42		109	52	15		--	--	--	--	--	--	--				
Mar. 8	1650	42		111	51	15		--	--	--	--	--	--	--				
Mar. 9	1430	47		90	38	9.2		--	--	--	--	--	--	--				
Mar. 11	1315	45		83	78	17		--	--	--	--	--	--	--				
Mar. 12	1630	47		180	253	123		57	71	86	93	99	99	100				SCPW
Mar. 20	0910	38		133	39	14		--	--	--	--	--	--	--				
Mar. 27	1155	48		153	38	16		--	--	--	--	--	--	--				
Mar. 28	0935	49		150	33	13		--	--	--	--	--	--	--				
Apr. 3	0915	56		143	24	9.3		--	--	--	--	--	--	--				
Apr. 18	0830	50		113	32	9.8		--	--	--	--	--	--	--				
May 2	1850	59		107	23	6.6		--	--	--	--	--	--	--				
May 7	1605	47		135	35	13		--	--	--	--	--	--	--				
May 7	1800	48		143	54	21		--	--	--	--	--	--	--				
May 8	1820	51		122	25	8.2		--	--	--	--	--	--	--				
May 8	1920	--		119	25	8.0		--	--	--	--	--	--	--				
May 9	0755	48		128	68	24		--	--	--	--	--	--	--				
May 15	1540	53		163	26	11		--	--	--	--	--	--	--				

1-5465. SPRING CREEK NEAR AXEMANN, PA.--Continued

Periodic determinations of suspended-sediment discharge and particle-size, water year October 1966 to September 1967--Continued
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
May 15, 1967.....	1915	52		183	39	19		--	--	--	--	--	--	--				
May 22.....	1905	55		126	17	5.8		--	--	--	--	--	--	--				
May 25.....	0930	55		113	25	7.6		--	--	--	--	--	--	--				
May 30.....	0810	58		117	62	20		--	--	--	--	--	--	--				
June 7.....	0815	65		86	22	5.1		--	--	--	--	--	--	--				
June 14.....	0805	67		97	39	10		--	--	--	--	--	--	--				
June 19.....	0805	64		74	24	4.8		--	--	--	--	--	--	--				
June 26.....	1355	69		68	51	9.4		--	--	--	--	--	--	--				
July 3.....	0840	65		71	76	14		--	--	--	--	--	--	--				
July 5.....	0805	61		66	21	3.7		--	--	--	--	--	--	--				
July 5.....	1900	65		59	22	3.5		--	--	--	--	--	--	--				
July 10.....	0915	69		68	66	12		--	--	--	--	--	--	--				
July 17.....	1000	63		52	8	1.1		--	--	--	--	--	--	--				
July 25.....	0805	66		148	308	123		76	84	97	98	99	100	--				SCPW
July 31.....	0945	69		86	41	9.5		--	--	--	--	--	--	--				
Aug. 13.....	1130	63		66	17	3.0		--	--	--	--	--	--	--				
Aug. 24.....	0930	61		56	67	10		--	--	--	--	--	--	--				
Sept. 8.....	0845	63		49	14	1.8		--	--	--	--	--	--	--				
Sept. 12.....	1025	58		48	21	2.7		--	--	--	--	--	--	--				
Sept. 26.....	1400	60		39	8	.8		--	--	--	--	--	--	--				
Sept. 28.....	1140	64		48	109	14		--	--	--	--	--	--	--				
Sept. 29.....	0820	59		83	177	40		--	--	--	--	--	--	--				
Sept. 29.....	1310	59		63	134	23		--	--	--	--	--	--	--				

1-5475. NORTH BALD EAGLE CREEK AT BLANCHARD, PA.

LOCATION.--Lat 41°03'05", long 77°36'10", at gaging station on left bank at end of Smith's Lane, 0.7 mile upstream from Marsh Creek, and 0.9 mile south of Blanchard, Centre County
DRAINAGE AREA.--339 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1967.
Water temperatures: December 1955 to March 1958.
Sediment records: December 1955 to March 1958.
REMARKS.--Records of specific conductance and pH of periodic sediment samples available in district office at Harrisburg, Pa.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 5, 1966...	143	--		--	--	--	--	[A]5.8	--	149	31	11	--	8.2	--	164	42		339	7.6	1
Nov. 23.....	127	7.3		0.00	0.00	40	15	8.0	2.1	164	28	14	0.1	9.1	219	162	27		355	7.2	2
Jan. 4, 1967...	164	6.7		.00	.00	40	13	6.2	1.8	148	29	10	.1	6.4	200	154	32		313	7.1	2
Mar. 1.....	225	5.1		.00	.00	31	12	10	1.6	120	25	16	.0	4.6	178	127	29		289	7.9	2
Apr. 6.....	615	--		--	--	--	--	A6.2	--	108	27	7.0	--	6.0	--	118	30		250	6.6	4
May 9.....	1300	7.1	0.3	.02	.02	20	5.8	3.5	1.6	64	23	4.4	.1	2.7	114	74	22		166	7.0	--
June 14.....	225	32		.07	.00	42	14	12	2.2	174	26	10	.0	6.5	227	163	20		347	7.4	2
Aug. 2.....	271	6.9		.02	.00	38	13	5.6	2.5	148	26	9.0	.0	7.1	190	149	27		308	7.5	4
Sept. 7.....	195	1.8		.00	.01	42	15	6.7	1.8	163	29	12	.0	4.6	210	167	33		347	7.1	3

A Calculated Na plus K, reported as Na.

1-5485. PINE CREEK AT CEDAR RUN, PA.

LOCATION.--Lat 41°31'20", long 77°26'55", sediment samples are collected at the highway bridge in the village of Cedar Run, Lycoming County. The gaging station is located on the left bank at the downstream side of the same bridge, 2,000 feet downstream from Cedar Run and 1.2 miles upstream from Gamble Run.
DRAINAGE AREA.--604 square miles.
RECORDS AVAILABLE.--Sediment records: October 1966 to September 1967 (periodic).
REMARKS.--Records of specific conductance, pH, and temperature of sediment samples available in the WRD office at Harrisburg, Pa. Miscellaneous determinations of suspended-sediment discharge collected prior to the 1967 water year are published in Part 2 of the 1966 water quality records report for Pennsylvania. Flow affected by ice Dec. 3-6, Dec. 24 to Jan. 22, Jan. 30 to Feb. 1, Feb. 7-16, and Feb. 22 to Mar. 14.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
Mar. 27, 1967..	2320	3.3		0.00	0.00	9.4	2.0	3.5	1.1	14	20	5.7	0.1	1.2	57	32	20		86	6.6	2
Sept. 27.....	84	2.0		.04	.00	13	2.9	4.4	1.3	32	19	7.5	.0	.1	77	45	19		120	7.2	5

1-5485. PINE CREEK AT CEDAR RUN, PA.--Continued

Periodic determinations of suspended-sediment discharge and particle-size, water year October 1966 to September 1967
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;
P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Oct. 4, 1966	--	--		73	1	T		--	--	--	--	--	--	--	--			
Nov. 16	--	--		173	11	5		--	--	--	--	--	--	--	--			
Dec. 20	--	--		551	2	3		--	--	--	--	--	--	--	--			
Feb. 9, 1967	--	--		640	2	3		--	--	--	--	--	--	--	--			
Feb. 15	--	--		490	2	3		--	--	--	--	--	--	--	--			
Feb. 16	--	--		1200	23	A 74		--	--	--	--	--	--	--	--			
Feb. 17	--	--		1080	10	29		--	--	--	--	--	--	--	--			
Feb. 18	--	--		891	3	7		--	--	--	--	--	--	--	--			
Feb. 23	--	--		520	1	1		--	--	--	--	--	--	--	--			
Mar. 15	--	--		4020	60	A 650		--	--	--	--	--	--	--	--			
Mar. 16	--	--		4090	22	240		--	--	--	--	--	--	--	--			
Mar. 17	--	--		3130	5	42		--	--	--	--	--	--	--	--			
Mar. 27	--	--		2320	45	A 280		--	--	--	--	--	--	--	--			
Mar. 28	--	--		3510	46	S 520		--	--	--	--	--	--	--	--			
Mar. 29	--	--		6920	170	S 4600		--	--	--	--	--	--	--	--			
Mar. 29	0005	40		6110	180	--		37	50	63	77	86	94	99	100			SCBW
Mar. 30	--	--		6330	60	S 1100		--	--	--	--	--	--	--	--			
Mar. 31	--	--		5160	24	330		--	--	--	--	--	--	--	--			
Apr. 1	--	--		4640	17	210		--	--	--	--	--	--	--	--			
Apr. 2	--	--		4200	11	120		--	--	--	--	--	--	--	--			
Apr. 3	--	--		3410	7	64		--	--	--	--	--	--	--	--			
Apr. 4	--	--		2510	5	34		--	--	--	--	--	--	--	--			
Apr. 5	--	--		2000	4	22		--	--	--	--	--	--	--	--			
Apr. 12	--	--		1350	4	14		--	--	--	--	--	--	--	--			
Apr. 19	--	--		1240	6	20		--	--	--	--	--	--	--	--			
Apr. 26	--	--		1050	3	8		--	--	--	--	--	--	--	--			
May 1	--	--		1110	4	12		--	--	--	--	--	--	--	--			
May 3	--	--		1580	12	51		--	--	--	--	--	--	--	--			
May 7	--	--		1330	7	25		--	--	--	--	--	--	--	--			
May 8	--	--		2050	14	77		--	--	--	--	--	--	--	--			
May 9	--	--		2030	8	44		--	--	--	--	--	--	--	--			
May 15	--	--		2920	34	S 360		--	--	--	--	--	--	--	--			
May 15	2000	47		4600	79	--		47	68	75	85	91	97	99	100			SCBW
May 16	--	--		3690	24	S 250		--	--	--	--	--	--	--	--			
May 17	--	--		3060	9	74		--	--	--	--	--	--	--	--			
May 24	--	--		1100	3	9		--	--	--	--	--	--	--	--			
May 31	--	--		700	2	4		--	--	--	--	--	--	--	--			
June 7	--	--		372	2	2		--	--	--	--	--	--	--	--			
June 10	--	--		441	9	S 12		--	--	--	--	--	--	--	--			
June 11	--	--		571	19	S 32		--	--	--	--	--	--	--	--			
June 12	--	--		406	3	3		--	--	--	--	--	--	--	--			
June 13	--	--		552	22	S 62		--	--	--	--	--	--	--	--			

S Computed by subdividing day.
T Less than 0.50 ton.
A Computed from partly estimated-concentration graph.

1-5485. PINE CREEK AT CEDAR RUN, PA.--Continued

Periodic determinations of suspended-sediment discharge and particle-size, water year October 1966 to September 1967--Continued
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)		Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
								0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
June 14, 1967	--	--		1210	33	S	110		--	--	--	--	--	--	--	--			
June 15	--	--		816	9		20		--	--	--	--	--	--	--	--			
June 16	--	--		640	10	S	21		--	--	--	--	--	--	--	--			
June 17	--	--		816	43	S	96		--	--	--	--	--	--	--	--			
June 23	--	--		514	12		17		--	--	--	--	--	--	--	--			
June 28	--	--		270	3		2		--	--	--	--	--	--	--	--			
July 3	--	--		600	37	S	70		--	--	--	--	--	--	--	--			
July 4	--	--		450	13		16		--	--	--	--	--	--	--	--			
July 5	--	--		610	20		33		--	--	--	--	--	--	--	--			
July 6	--	--		486	11		14		--	--	--	--	--	--	--	--			
July 13	--	--		263	7		5		--	--	--	--	--	--	--	--			
July 20	--	--		241	7		4		--	--	--	--	--	--	--	--			
July 21	--	--		630	76	S	140		--	--	--	--	--	--	--	--			
July 21	0915	69		650	140		--		71	84	94	99	99	100	--	--			SCBW
July 22	--	--		630	59		100		--	--	--	--	--	--	--	--			
July 23	--	--		441	25		30		--	--	--	--	--	--	--	--			
July 24	--	--		406	10		11		--	--	--	--	--	--	--	--			
July 25	--	--		640	28		48		--	--	--	--	--	--	--	--			
Aug. 1	--	--		552	47	S	85		--	--	--	--	--	--	--	--			
Aug. 2	--	--		468	130	S	160		--	--	--	--	--	--	--	--			
Aug. 3	--	--		423	36		41		--	--	--	--	--	--	--	--			
Aug. 4	--	--		932	120	S	320		--	--	--	--	--	--	--	--			
Aug. 5	--	--		752	75	S	150		--	--	--	--	--	--	--	--			
Aug. 6	--	--		571	18		28		--	--	--	--	--	--	--	--			
Aug. 12	--	--		270	17		12		--	--	--	--	--	--	--	--			
Aug. 17	--	--		151	6		2		--	--	--	--	--	--	--	--			
Aug. 23	--	--		175	9		4		--	--	--	--	--	--	--	--			
Aug. 26	--	--		163	6		3		--	--	--	--	--	--	--	--			
Aug. 27	--	--		248	21	S	20		--	--	--	--	--	--	--	--			
Aug. 28	--	--		640	48	S	91		--	--	--	--	--	--	--	--			
Aug. 29	--	--		432	28		33		--	--	--	--	--	--	--	--			
Aug. 30	--	--		356	7		7		--	--	--	--	--	--	--	--			
Aug. 31	--	--		630	37	S	90		--	--	--	--	--	--	--	--			
Sept. 1	--	--		650	20		35		--	--	--	--	--	--	--	--			
Sept. 6	--	--		301	4		3		--	--	--	--	--	--	--	--			
Sept. 13	--	--		145	4		2		--	--	--	--	--	--	--	--			
Sept. 20	--	--		96	5		1		--	--	--	--	--	--	--	--			
Sept. 27	--	--		84	5		1		--	--	--	--	--	--	--	--			
Sept. 28	--	--		127	6		2		--	--	--	--	--	--	--	--			
Sept. 29	--	--		1320	210	S	930		--	--	--	--	--	--	--	--			
Sept. 30	--	--		826	50	A	110		--	--	--	--	--	--	--	--			

S Computed by subdividing day.
A Computed from partly estimated-concentration graph.

1-5545. SHAMOKIN CREEK NEAR SHAMOKIN, PA.

LOCATION.--Lat 40°48'50", long 76°35'10", sediment samples are collected at the foot bridge, 0.2 mile downstream from gaging station, 0.5 mile upstream from Buddys Run, 1.6 miles downstream from Trout Run, and 2.5 miles northwest of Shamokin, Northumberland County.
DRAINAGE AREA.--54.2 square miles.
RECORDS AVAILABLE.--Sediment records: October 1966 to March 1967 (periodic, discontinued).
REMARKS.--Records of specific conductance, pH, and temperature of sediment samples available in the WRD office at Harrisburg, Pa. Periodic sediment data collected in the 1967 water year for Shamokin Creek at Paxinos, Pa. are published with the Susquehanna River basin miscellaneous analyses.

Periodic determinations of suspended-sediment discharge, October 1966 to March 1967
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Oct. 20, 1966.....	1400	56		34	822	75												
Oct. 21.....	1510	60		34	2820	259												
Oct. 22.....	1510	60		25	265	18												
Oct. 23.....	1010	62		27	148	11												
Oct. 24.....	1820	55		37	389	39												
Oct. 25.....	1510	57		32	2590	224												
Oct. 26.....	1520	58		34	3790	348												
Oct. 27.....	1630	59		37	1520	152												
Oct. 28.....	1515	58		34	3070	282												
Oct. 29.....	1235	58		24	752	49												
Oct. 30.....	1500	52		17	343	16												
Oct. 31.....	0830	50		19	469	24												
Nov. 2.....	1000	60		24	3085	200												
Nov. 9.....	0615	52		30	264	21												
Nov. 10.....	1200	59		35	3300	312												
Nov. 11.....	1900	54		49	296	39												
Nov. 12.....	0300	58		38	1140	117												
Nov. 12.....	0600	56		36	1300	126												
Nov. 16.....	1620	51		49	1840	243												
Nov. 25.....	1620	50		47	862	109												
Nov. 30.....	1640	55		70	642	121												
Dec. 7.....	1700	--		56	1850	280												
Dec. 21.....	1810	46		53	487	70												
Dec. 28.....	0740	39		40	204	22												
Jan. 3, 1967.....	1845	49		51	1530	211												
Jan. 11.....	1500	45		45	882	107												
Jan. 18.....	0800	38		43	892	104												
Jan. 24.....	1030	--		43	642	74												
Feb. 1.....	1100	49		57	538	83												
Feb. 8.....	1040	39		50	207	28												
Feb. 8.....	1400	40		50	1460	197												
Feb. 15.....	1400	45		45	2020	245												
Feb. 22.....	1200	49		56	826	125												
Mar. 1.....	1700	--		50	2140	289												

1-5590. JUNIATA RIVER AT HUNTINGDON, PA.

LOCATION.--Lat 40°29'05", long 78°01'10", at gaging station on right bank 450 feet downstream from Smithfield Bridge at Huntingdon, Huntingdon County, and 0.8 mile upstream from Standing Stone Creek.
DRAINAGE AREA.--816 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1947 to September 1951, October 1962 to September 1967.
Water temperatures: October 1947 to September 1951.
REMARKS.--Records of specific conductance of daily samples available in subdistrict office at Philadelphia, Pa.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 20, 1966..	154	7.3		0.13	0.00	45	15	51	4.9	166	58	62	0.6	2.3	348	174	38		563	7.6	200
Nov. 29.....	1370	8.5		.05	.00	33	9.2	26	4.1	96	53	32	.2	8.0	244	121	42		369	6.9	35
Jan. 13, 1967..	256	5.8		.12	.00	40	12	42	3.7	131	59	56	.3	5.7	308	150	42		494	6.9	90
Feb. 22.....	600	--		--	--	--	--	A20	--	77	40	24	--	3.8	--	98	35		291	7.3	25
Apr. 10.....	1270	6.7		.00	.00	30	8.1	12	1.8	87	35	15	.2	.6	176	108	37		270	7.2	9
Apr. 11.....	1140	8.7		.02	.00	19	5.7	4.6	1.7	50	32	6.5	.2	.2	113	71	30		177	6.7	6
May 16.....	2530	7.7		.00	.00	26	7.0	6.8	1.6	75	30	7.0	.2	4.2	131	94	33		210	7.1	9
Aug. 16.....	332	7.3		.06	.00	38	12	23	2.5	141	48	24	.4	3.9	239	145	29		383	8.0	30
Sept. 19.....	258	--		--	--	--	--	A20	--	164	12	42	--	3.2	--	165	31		487	7.8	42

A Calculated Na plus K, reported as Na.

Periodic determinations of suspended-sediment discharge, water year October 1966 to September 1967
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters: 0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	Method of analysis
Oct. 20, 1966.....	1405	53		31	3	T												
Nov. 30.....	1340	--		1330	56	201												
Jan. 13, 1967.....	0815	32		54	4	1												
Feb. 22.....	0800	33		188	4	2												
Mar. 16.....	1415	42		5520	42	626												
Mar. 16.....	2100	40		4990	35	472												
Mar. 17.....	1000	--		4460	23	277												
Apr. 10.....	1840	54		1320	16	57												
May 6.....	1405	54		1790	22	106												
May 7.....	1330	49		2730	39	287												
May 16.....	1405	54		2680	16	116												
Aug. 4.....	1310	76		1490	48	193												
Aug. 16.....	0700	64		64	7	1												
Sept. 19.....	0635	67		58	6	1												

T Less than 0.50 ton.

1-5670. JUNIATA RIVER AT NEWPORT, PA.

LOCATION.--Lat 40°28'45", long 77°07'45", at gaging station on State Highway 34 bridge at Newport, Perry County, 1,000 feet upstream from Little Buffalo Creek.
DRAINAGE AREA.--3,354 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1944 to June 1953, October 1956 to September 1967.
Water temperatures: October 1944 to September 1950, June 1958 to September 1967.
Sediment records: January 1951 to September 1967.
EXTREMES, 1966-67.--Specific conductance: Maximum daily, 508 micromhos Nov. 1; minimum daily, 125 micromhos Mar. 9.
Water temperatures: Maximum, 88°F June 13; minimum, freezing point Jan. 19, Feb. 14.
Sediment concentrations: Maximum daily, 470 ppm Mar. 7; minimum daily, 1 ppm on many days during October and November.
Sediment loads: Maximum daily, 57,000 tons Mar. 7; minimum daily, 1 ton on many days during October and November.
EXTREMES, 1944-67.--Dissolved solids (1944-47, 1949-51, 1957-58): Maximum, 282 ppm Oct. 1-10, 1944; minimum, 78 ppm Mar. 1-10, 1945 and May 21-31, 1946.
Hardness (1944-47, 1949-53, 1957-58): Maximum, 170 ppm Nov. 1-10, 1952; minimum, 46 ppm Mar. 21-31, 1950 and Apr. 1-10, 1958.
Specific conductance: Maximum daily, 566 micromhos Aug. 22, 1964; minimum daily, 59 micromhos Aug. 19, 1950.
Water temperatures (1944-50, 1958-67): Maximum, 88 June 13, 1967; minimum, freezing point on many days during winter months.
Sediment concentrations (1951-67): Maximum daily, 1,130 ppm Mar. 2, 1954; minimum daily, 0 ppm on many days.
Sediment loads (1951-67): Maximum daily, 128,000 tons Mar. 2, 1954; minimum daily, 0 tons on many days.
REMARKS.--Records of specific conductance, pH, and temperature of sediment samples available in WRD office at Harrisburg, Pa. Flow affected by ice Dec. 4, 25-28, Jan. 6-13, 17-23, Feb. 8-14, and Feb. 24 to Mar. 3. Where no potassium (K) is reported, sodium (Na) and potassium (K) are calculated and reported as sodium (Na).

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 1-10, 1966	810							20		105	71	24		0.8		150	64		378	7.7	15
Nov. 1-10.....	440							34		131	80	36		.2		168	54		472	7.6	25
Dec. 1-10.....	2400							11		82	52	13		4.4		120	53		284	7.6	10
Jan. 1-10, 1967	906							19		91	50	20		4.3		116	42		309	7.5	14
Feb. 1-10.....	3950							8.0		53	34	10		4.6		79	36		198	7.2	10
Mar. 1-10.....	14320							13		55	37	15		3.9		80	35		221	7.2	5
Apr. 1-10.....	5680							4.1		46	29	9.0		3.6		74	37		184	6.8	3
May 1-10.....	10030							3.7		46	24	6.0		2.5		65	28		149	7.3	1
June 1-10.....	2430							13		81	37	10		2.0		92	26		235	7.4	5
June 15.....	1350							15		100	44	13		1.4		115	33		289	7.2	13
July 1-10.....	1070							19		108	48	18		.1		122	34		315	7.8	4
Aug. 1-10.....	4420							6.9		71	32	6.5		4.1		89	31		206	8.0	16
Sept. 1-10.....	1070							17		104	50	16		2.3		124	39		317	7.8	18

1-5670. JUNIATA RIVER AT NEWPORT, PA.--Continued

Specific conductance (micromhos at 25°C), water year October 1966 to September 1967

Day	October	November	December	January	February	March	April	May	June	July	August	September
1.....	407	508	239	321	205	278	161	147	200	327	212	310
2.....	374	500	258	312	201	290	162	148	212	331	220	280
3.....	384	472	280	298	193	270	165	150	209	260	218	315
4.....	333	479	300	299	202	255	175	152	212	270	240	309
5.....	368	460	290	341	195	241	180	154	212	294	242	299
6.....	379	461	300	320	191	196	181	149	220	288	167	217
7.....	372	424	305	341	193	145	184	150	225	308	189	328
8.....	398	470	305	309	223	126	185	135	229	301	212	309
9.....	380	500	310	315	225	127	172	131	230	319	225	329
10.....	385	463	290	330	228	137	180	127	231	320	226	334
11.....	385	498	279	340	222	140	185	128	252	333	222	332
12.....	395	471	268	329	221	131	190	129	250	335	232	353
13.....	389	480	240	322	231	129	195	130	250	360	247	358
14.....	391	469	249	331	215	130	190	134	260	342	255	370
15.....	400	476	245	299	227	136	192	138	292	360	210	390
16.....	428	421	240	311	229	144	190	140	303	295	260	392
17.....	430	441	238	321	245	144	196	142	296	269	272	408
18.....	425	465	233	340	238	144	208	148	308	269	278	409
19.....	430	480	239	342	241	150	198	160	330	286	282	390
20.....	412	461	249	350	230	158	195	167	238	303	290	395
21.....	418	440	250	358	--	160	195	164	278	317	306	410
22.....	480	442	250	360	--	165	170	170	302	322	300	430
23.....	470	450	254	333	247	175	178	174	298	318	320	408
24.....	470	431	269	320	--	190	178	172	299	300	345	414
25.....	467	430	268	300	--	190	178	179	289	262	321	404
26.....	489	460	--	--	261	190	178	185	312	192	334	398
27.....	479	435	--	--	265	181	167	195	310	258	330	422
28.....	490	261	--	278	260	179	150	200	319	247	309	420
29.....	521	194	311	208	--	177	145	200	340	236	297	415
30.....	497	229	300	195	--	169	154	220	328	238	280	218
31.....	468	--	--	203	--	167	--	210	--	234	269	--
Average	423	439	268	311	224	174	179	158	267	293	261	358

Temperature (°F) of water, water year October 1966 to September 1967

MONTH	DAY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER..	55	51	54	51	60	55	53	54	59	62	56	56	51	56	58	60	54	48	49	48	46	51	57	56	56	56	55	56	54	46	50	53
NOVEMBER.	53	54	55	49	47	44	39	43	46	51	55	51	50	45	48	45	48	50	44	38	42	42	40	39	48	45	45	45	42	44	--	46
DECEMBER.	39	39	37	36	33	35	37	40	43	47	44	43	39	38	37	37	39	35	40	39	35	34	35	35	39	--	--	--	34	36	--	37
JANUARY..	34	35	35	34	35	36	38	35	36	33	35	33	34	35	36	35	34	36	32	34	33	35	34	38	43	--	--	48	37	36	38	35
FEBRUARY.	39	38	42	40	38	40	34	33	35	36	37	37	32	32	38	38	39	39	34	38	--	--	39	--	--	37	34	35	--	--	--	36
MARCH....	34	36	38	33	36	35	34	34	38	40	42	43	42	45	44	42	40	38	38	39	37	36	39	39	41	45	42	47	46	50	50	40
APRIL....	54	59	58	51	51	53	54	51	54	57	50	49	49	51	57	69	56	55	51	50	54	55	54	52	50	50	50	52	52	56	--	53
MAY.....	58	58	58	56	56	54	50	50	50	50	50	50	50	50	54	51	52	55	57	58	57	54	55	58	57	59	60	67	65	61	63	55
JUNE.....	63	64	67	67	68	74	75	78	74	81	77	76	88	77	81	84	78	78	76	74	76	76	77	81	79	71	78	79	71	70	--	75
JULY.....	73	74	79	76	73	72	72	72	74	77	78	78	78	76	74	76	77	76	76	79	83	82	83	76	74	77	81	74	73	74	74	76
AUGUST...	74	75	76	76	75	74	74	74	74	74	74	69	70	70	71	71	73	73	77	75	73	73	72	70	68	68	70	70	70	69	71	72
SEPTEMBER	66	68	65	69	69	68	69	71	72	69	64	64	65	68	65	67	76	73	72	71	72	69	61	61	57	57	60	63	67	61	--	66

1-5670. JUNIATA RIVER AT NEWPORT, PA.--Continued

Suspended sediment, water year October 1966 to September 1967

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	600	2	3	279	7	5	4530	45	550
2	1030	6	17	221	3	2	3860	33	340
3	1050	9	26	459	15	18	2640	14	100
4	1170	9	28	561	21	32	2100	16	91
5	970	7	18	448	19	23	1750	10	47
6	770	4	8	437	18	21	1440	6	23
7	712	2	4	496	17	23	1690	4	18
8	684	1	2	371	16	16	1830	4	20
9	548	1	1	393	14	15	1900	3	15
10	561	1	2	740	18	36	2310	4	25
11	426	1	1	614	5	8	2990	10	81
12	351	5	5	587	3	5	3500	17	160
13	470	22	28	656	3	5	3560	18	170
14	360	24	23	670 C	1	2	3260	10	88
15	360	26	25	628 C	1	2	3020	10	82
16	371	28	28	509 C	1	1	2680	7	51
17	382	30	31	483 C	1	1	2390	9	58
18	297	29	23	535 C	1	1	2150	5	29
19	279	18	14	522 C	2	3	1790	4	19
20	426	8	9	459 C	2	2	1890	10	51
21	426 C	2	2	470 C	2	2	1710	5	23
22	426 C	2	2	393 C	2	2	1750	4	19
23	360 C	2	2	404 C	2	2	1530	3	12
24	360 C	2	2	371	7	7	1460	3	12
25	279 C	2	2	360	11	11	1200	6	19
26	263	2	1	360	5	5	680	7	13
27	371	8	8	342	1	1	720	4	8
28	404	13	14	2110	75 S	1100	1100	8	24
29	342	13	12	9630	460 S	13000	1000	8	22
30	351	14	13	6920	88	1600	940	7	18
31	324	15	13	--	--	--	900	7	17
TOTAL	15723	--	367	31428	--	15951	64270	--	2205

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	860	7	16	4500	12	140	1300	8	28
2	640	18	31	3930	8	85	1600	8	34
3	1100	43	130	4580	14	170	1900	10	51
4	1100	56	170	5020	24	320	2230	10	60
5	1000	12	32	4950	18	240	2340	12	76
6	960	8	21	4600	20	250	17200	210 S	15000
7	900	10	24	4190	22	250	44900	470 S	57000
8	840	5	11	3000	19	150	34500	230 S	22000
9	780	6	13	2500	12	81	21100	120	6800
10	880	7	17	2200	11	65	16100	56	2400
11	1100	8	24	2500	8	54	19500	48	2500
12	1000	7	19	2800	9	68	26900	93	6800
13	1100	6	18	2600	12	84	26100	82	5800
14	1000	4	11	1800	6	29	20300	40	2200
15	1030	2	6	2190	4	24	17300	33	1500
16	906	4	10	2500	7	47	19100	42	2200
17	980	5	13	2830	14	110	20400	46	2500
18	1050	6	17	2930	14	110	16400	27	1200
19	700	7	13	2640	15	110	12500	22	740
20	840	10	23	2600	11	77	10100	14	380
21	840	6	14	2420	10	65	8770	12	280
22	760	4	8	2390	9	58	7860	10	210
23	1100	7	21	2390	8	52	7440	9	180
24	1270	13	44	2000	8	43	7250	10	200
25	1710	11	51	1200	8	26	7400	12	240
26	1820	12	59	1000	8	22	8680	17	400
27	2050	13 A	72	1200	5	16	9180	22	540
28	5510	44 A	650	1350	3	11	9210	23	570
29	8070	86 A	1900	--	--	--	9300	24	600
30	6440	45	780	--	--	--	9850	26	690
31	5240	28	400	--	--	--	8990	27	660
TOTAL	53576	--	4618	78810	--	2757	425700	--	133839

S Computed by subdividing day.
A Computed from partly estimated-concentration graph.
C Composite period.

1-5670. JUNIATA RIVER AT NEWPORT, PA.--Continued

Suspended sediment, water year October 1966 to September 1967--Continued

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	7850	22	470	6700	27	490	3520	12	110
2	6970	22	410	6060	21	340	3400	10	92
3	6180	23	380	6450	22	380	2670	7	50
4	5560	23	340	8510	54	1200	2540	7	48
5	5100	19	260	6920	62	1200	2480	8	54
6	4720	15	190	6320	34	580	2060	5	28
7	4800	17	220	7530	30	610	2080	6	34
8	5210	24	340	14500	81 S	3300	1930	4	21
9	5400	24	350	20200	96 S	5200	1890	3	15
10	5010	21	280	17200	58	2700	1770	2	10
11	4720	19	240	13400	34	1200	1700	6	28
12	4510	17	210	15600	42	1800	1780	5	24
13	4180	12	140	18000	60	2900	1620	5	22
14	4000	11	120	14400	34	1300	1650	9	40
15	3810	10	100	11900	30	960	1350	6	22
16	3650	12	120	11800	26	830	1490	6	24
17	3380	11	100	10600	24	690	1400	5	19
18	3950	14	150	8670	22	510	1520	5	20
19	5200	20	280	7580	23	470	2410	110 B	720
20	4560	15	180	7180	22	430	1610	240 A	1000
21	4310	11	130	6600	24	430	1700	63	290
22	4340	18	210	5690	21	320	1530	20	83
23	4640	24	300	5130	16	220	1390	10	38
24	4770	27	350	4650	15	190	1450	9	35
25	4350	19	220	4260	16	180	1460	10	39
26	4290	17	200	3880	15	160	1230	12	40
27	5420	18	260	3740	13	130	1190	8	26
28	8060	34	740	2780	8	60	1070	5	14
29	8320	36	810	2530	9	61	1010	5	14
30	7560	30	610	3680	13	130	877	7	16
31	--	--	--	3750	10	100	--	--	--
TOTAL	154820	--	8710	266210	--	29071	53777	--	2976

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	919	12	30	3800	56	570	1610	12	52
2	922	27	67	3390	40	370	1530	10	41
3	969	36	94	2370	25	160	1300	7	24
4	972	31	81	4080	59	650	1090	5	15
5	1470	22	87	8390	240 S	5400	930	3	8
6	1180	16	51	6520	140	2500	1000	3	8
7	1060	15	43	4750	92	1200	840	3	7
8	1100	14	42	3780	60	610	849	4	9
9	1080	12	35	3530	47	450	803	4	9
10	1010	12	33	3630	44	430	747	2	4
11	901	14	34	3260	45	400	787	3	6
12	1020	11	30	2850	34	260	747	3	6
13	1550	10	42	2350	26	160	798	3	6
14	1630	9	40	2010	24	130	799	3	6
15	1340	6	22	1800	16	78	683	3	6
16	1980	8	43	1730	14	65	669	3	5
17	1560	8	34	1500	12	49	626	2	3
18	1490	5	20	1440	9	35	616	2	3
19	1380	3	11	1320	6	21	525	2	3
20	1180	3	10	1230	5	17	488	4	5
21	1150	5	16	1200	4	13	681	3	6
22	1330	6	22	1140	4	12	790	4	8
23	2110	10	57	1350	3	11	781	4	8
24	2180	6	35	1240	4	13	645	2	3
25	5440	140	2100	1230	5	17	597	2	3
26	5250	130	1800	1240	5	17	674	2	4
27	4530	79	970	1800	13	63	545	2	3
28	2990	50	400	2280	30	180	768	8	16
29	3760	56	570	2500	33	220	1370	17	63
30	5050	81	1100	2540	26	180	12500	420 S	15000
31	4400	69	820	1900	17	87	--	--	--
TOTAL	62903	--	8739	82150	--	14368	36788	--	15340

TOTAL DISCHARGE FOR YEAR (CFS-DAYS).....1326155
TOTAL LOAD FOR YEAR (TONS).....238941

S Computed by subdividing day.
A Computed from partly estimated-concentration graph.
B Computed from estimated-concentration graph.

SUSQUEHANNA RIVER BASIN--Continued

1-5670. JUNIATA RIVER AT NEWPORT, PA.--Continued

Particle-size analyses of suspended sediment, water year October 1966 to September 1967
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Nov. 29, 1966.....	2040	42		7080	108			73	87	94	97	99	100	--	--			SCBW
Jan. 29, 1967.....	1430	37		8290	96			63	77	88	93	97	98	100	--			SCBW
Mar. 7.....	1115	34		47000	457			53	70	84	90	95	97	99	100			SCPW
Apr. 29.....	0800	50		8480	36			--	--	--	--	97	100	--	--			S
May 9.....	1600	50		21600	83			52	64	77	85	92	98	99	100			SCBW
Sept. 30.....	1530	62		13500	494			65	84	94	98	99	100	--	--			SCPW

1-5675. BIXLER RUN NEAR LOYSVILLE, PA.

LOCATION.--Lat 40°22'15", long 77°24'10", at gaging station located on right bank 400 feet upstream from bridge on State Highway 850 at Bixler, Perry County. Sediment samples collected at highway bridge on high flow and at gage on low flow.
DRAINAGE AREA.--15.0 square miles.
RECORDS AVAILABLE.--Water temperatures: November 1956 to February 1965.
Sediment records: February 1954 to September 1967.
EXTREMES, 1966-67.--Sediment concentrations: Maximum daily, 350 ppm Mar. 6; minimum daily, 1 ppm on many days during October and November.
Sediment loads: Maximum daily, 390 tons Mar. 6; minimum daily, less than 0.05 ton on many days during October, November, January and August.
EXTREMES, 1954-67.--Water temperatures (November 1956 to February 1965): Maximum, 85°F July 27, 1957; minimum, freezing point on many days during winter months.
Sediment concentrations: Maximum daily, 986 ppm June 10, 1954; minimum daily, 0 ppm Oct. 29, 30, 1956.
Sediment loads: Maximum daily, 740 tons Feb. 13, 1966; minimum daily, 0 tons Oct. 29, 30, 1956.
REMARKS.--Unpublished records of specific conductance, pH, and temperature of periodic sediment samples available in WRD office at Harrisburg, Pa.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 13, 1966..	3.3	6.5		0.00	0.00	40	7.8	1.8	1.2	130	21	3.9	0.0	5.7	174	132	26		265	7.6	2
Apr. 21, 1967..	15	5.8		.00	.00	26	4.2	2.0	.9	76	16	4.3	.1	5.7	107	83	20		170	7.2	3
June 15.....	6.7	6.0		.00	.00	39	6.5	1.7	1.1	122	17	3.4	.1	7.2	148	124	24		237	8.0	4

Particle-size analyses of suspended sediment, water year October 1966 to September 1967
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters: 0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	Method of analysis
Nov. 28, 1966.....	1915	41		423	261			54	72	84	91	98	100					SCPW
Mar. 6, 1967.....	1015	34		653	551			53	69	82	86	94	97	99	100			SCPW
Mar. 10.....	1830	47		383	316			54	70	84	92	98	100					SCBW
July 25.....	1720	68		42	214			73	86	95	99	100	--					SCBW
July 29.....	1730	68		67	329			72	85	94	98	100	--					SCBW

1-5675. BIXLER RUN NEAR LOYSVILLE, PA.--Continued

Suspended sediment, water year October 1966 to September 1967

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	18	39 S	2.4	3.4	2	T	23	10	0.6
2	9.5	10	.3	4.1	2	T	17	8	.4
3	5.8	4	.1	8.4	6	0.1	12	7	.2
4	4.7	2	T	3.9	3	T	9.4	5	.1
5	3.9	2	T	3.3	2	T	9.0	5	.1
6	3.4	1	T	3.3	2	T	9.2	5	.1
7	3.3	1	T	3.1	2	T	13	7	.2
8	3.1	1	T	3.3	2	T	13	7	.2
9	3.1	1	T	3.4	2	T	11	7	.2
10	3.2	1	T	3.8	2	T	12	7	.2
11	3.3	1	T	4.9	4	.1	25	23 S	1.9
12	3.3	1	T	3.8	2	T	16	6	.2
13	3.3	1	T	3.4	2	T	14	5	.2
14	3.3	1	T	3.3	2	T	14	4	.2
15	3.3	1	T	3.1	2	T	12	4	.1
16	3.6	1	T	3.0	1	T	11	3	.1
17	3.3	1	T	3.0	1	T	11	3	.1
18	3.4	2	T	3.0	1	T	11	3	.1
19	5.3	4	.1	2.8	1	T	9.6	3	.1
20	3.9	2	T	2.6	1	T	9.3	3	.1
21	3.4	2	T	2.6	1	T	9.0	3	.1
22	3.3	2	T	2.6	1	T	8.4	3	.1
23	3.3	2	T	2.6	1	T	7.8	3	.1
24	3.3	2	T	2.6	1	T	7.5	3	.1
25	3.1	2	T	2.8	1	T	6.9	3	.1
26	3.1	2	T	3.0	1	T	6.7	3	.1
27	3.1	2	T	2.8	1	T	6.2	3	.1
28	3.1	2	T	227	260 S	200	5.7	4	.1
29	3.1	2	T	114	36 S	14	6.2	6	.1
30	3.3	2	T	39	12	1.3	5.4	6	.1
31	3.3	2	T	--	--	--	5.2	6	.1
TOTAL	129.4	--	3.3	471.9	--	215.9	336.5	--	6.5

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	5.4	6	0.1	20	5	0.3	7.5	4	0.1
2	5.7	6	.1	32	-- E	1.0	7.2	4	.1
3	5.7	6	.1	28	6	.4	9.3	4	.1
4	5.7	5	.1	22	5	.3	8.7	4	.1
5	5.7	5	.1	21	5	.3	71	130 S	51
6	5.0	4	.1	19	5	.2	361	350 S	390
7	5.7	4	.1	14	4	.2	127	58 S	21
8	6.9	4	.1	15	4	.2	70	20	3.8
9	7.2	3	.1	14	4	.2	66	23	4.1
10	6.2	3	.1	14	4	.2	144	130 S	79
11	5.9	3	T	17	6	.3	194	95 S	68
12	5.7	3	T	14	5	.2	142	31	12
13	5.7	3	T	11	4	.1	92	12	3.0
14	6.2	3	.1	11	5	.1	71	6	1.2
15	7.8	3	.1	15	6	.2	80	19 S	4.4
16	7.2	2	T	16	6	.2	69	12	2.2
17	6.4	2	T	12	6	.2	59	8	1.3
18	5.2	2	T	12	6	.2	43	6	.7
19	4.5	2	T	12	6	.2	36	4	.4
20	4.5	2	T	12	6	.2	34	4	.4
21	5.4	2	T	12	6	.2	32	4	.3
22	7.8	4	.1	11	5	.1	34	4	.4
23	8.4	4	.1	11	5	.1	33	4	.4
24	8.4	4	.1	9.6	4	.1	41	10	1.1
25	7.5	4	.1	7.8	4	.1	45	10	1.2
26	6.9	4	.1	7.8	4	.1	45	8	1.0
27	58	210 S	59	7.8	4	.1	44	7	.8
28	83	50 S	14	8.7	4	.1	42	6	.7
29	40	17	1.8	--	--	--	43	6	.7
30	26	6	.4	--	--	--	32	6	.5
31	21	5	.3	--	--	--	28	6	.4
TOTAL	390.7	--	77.5	406.7	--	6.1	2110.7	--	650.4

E Estimated day.
S Computed by subdividing day.
T Less than 0.05 ton.

1-5675. BIXLER RUN NEAR LOYSVILLE, PA.--Continued

Suspended sediment, water year October 1966 to September 1967--Continued

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	26	6	0.4	21	6	0.3	12	8	0.2
2	25	6	.4	27	12	.9	11	8	.2
3	23	5	.3	37	20 B	2.0	11	8	.2
4	20	5	.3	25	10	.7	10	8	.2
5	20	5	.3	25	10	.7	9.6	8	.2
6	20	5	.3	31	-- E	2.0	9.3	8	.2
7	31	19	1.6	133	88	32	9.0	8	.2
8	19	10	.5	116	27	8.4	8.7	8	.2
9	18	9	.4	82	15	3.3	8.4	8	.2
10	19	9	.5	58	10	1.6	8.1	8	.2
11	17	9	.4	60	45	7.3	7.5	8	.2
12	15	9	.4	100	14	3.8	7.2	8	.2
13	15	9	.4	62	12	2.0	6.7	8	.1
14	15	9	.4	54	10	1.4	6.7	8	.1
15	14	9	.3	80	60 A	13	6.7	8	.1
16	13	9	.3	70	15	2.8	6.2	8	.1
17	23	24 S	1.7	52	8	1.1	6.4	8	.1
18	20	8	.4	42	6	.7	6.4	8	.1
19	16	6	.2	38	6	.6	6.7	8	.1
20	15	6	.2	32	5	.4	6.2	8	.1
21	15	6	.2	27	5	.4	5.7	8	.1
22	19	6	.3	25	5	.3	5.9	8	.1
23	15	6	.2	22	5	.3	6.2	8	.1
24	15	6	.2	20	5	.3	5.4	8	.1
25	13	5	.2	18	5	.2	5.2	8	.1
26	14	5	.2	17	5	.2	4.8	8	.1
27	51	40 S	6.1	15	5	.2	4.8	8	.1
28	32	11	1.0	15	5	.2	4.8	8	.1
29	27	8	.6	23	13	.8	5.0	8	.1
30	24	6	.4	18	10	.5	5.4	8	.1
31	--	--	--	14	9	.3	--	--	--
TOTAL	609	--	19.1	1359	--	88.7	217.0	--	4.2

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	4.8	8	0.1	4.3	6	0.1	3.3	8	0.1
2	5.4	8	.1	4.2	6	.1	3.2	8	.1
3	5.4	8	.1	5.0	8	.1	3.0	8	.1
4	4.8	7	.1	6.4	10	.2	3.0	8	.1
5	5.0	7	.1	5.0	7	.1	3.0	8	.1
6	4.5	7	.1	4.3	6	.1	3.0	8	.1
7	4.3	7	.1	4.0	6	.1	2.9	8	.1
8	4.5	7	.1	3.6	5	T	2.7	8	.1
9	4.8	7	.1	3.6	5	T	2.9	8	.1
10	5.7	50 B	.8	3.6	5	T	2.9	8	.1
11	5.2	10	.1	3.3	5	T	2.7	8	.1
12	4.8	10	.1	3.3	5	T	2.7	8	.1
13	4.2	10	.1	3.3	5	T	2.7	8	.1
14	4.2	10	.1	3.3	5	T	2.7	8	.1
15	5.4	12	.2	3.2	5	T	2.6	8	.1
16	4.3	12	.1	3.2	5	T	2.6	8	.1
17	4.0	12	.1	3.2	5	T	2.7	8	.1
18	4.0	12	.1	3.2	5	T	2.7	8	.1
19	3.8	12	.1	3.2	5	T	2.6	8	.1
20	3.8	12	.1	3.5	5	T	2.6	8	.1
21	4.0	12	.1	3.3	5	T	3.0	8	.1
22	3.8	12	.1	3.0	5	T	3.2	8	.1
23	5.0	16	.2	3.0	5	T	2.9	8	.1
24	6.7	19	.3	3.6	5	T	2.9	8	.1
25	18	210 S	25	5.4	8	.1	2.9	8	.1
26	6.9	40	.7	8.4	-- E	.8	2.9	8	.1
27	4.5	17	.2	12	55 A	1.8	3.0	10	.1
28	11	57 S	2.8	6.2	15	.2	7.2	12	.2
29	13	73 S	4.6	3.8	10	.1	6.4	10	.2
30	7.5	26	.5	3.3	8	.1	3.3	8	.1
31	5.0	8	.1	3.3	8	.1	--	--	--
TOTAL	178.3	--	37.4	132.0	--	4.7	94.2	--	3.2

TOTAL DISCHARGE FOR YEAR (CFS-DAYS)..... 6435.4
TOTAL LOAD FOR YEAR (TONS)..... 1117.0

E Estimated day.
S Computed by subdividing day.
T Less than. 0.05 ton.
A Computed from partly estimated-concentration graph.
B Computed from estimated concentration graph.

1-5705. SUSQUEHANNA RIVER AT HARRISBURG, PA.

LOCATION.--Lat 40°15'10", long 76°52'27", at Walnut Street Bridge in Harrisburg, Dauphin County, 3,700 feet upstream from gaging station.
DRAINAGE AREA.--24,100 square miles, approximately.
RECORDS AVAILABLE.--Chemical analyses: Composites of daily samples collected from east channel station 1180: October 1944 to September 1946.
Cross-section samples: One to three times monthly, October 1944 to September 1949.
Monthly cross-section samples: November 1950 to January 1953, March to July 1956, October 1956 to September 1967.
Water temperatures: October 1944 to September 1946.
Sediment records: October 1963 to September 1967.
EXTREMES, 1966-67.--Sediment concentrations: Maximum daily, 290 ppm Mar. 7; minimum daily, 2 ppm Oct. 30, 31, and Nov. 1.
Sediment loads: Maximum daily, 74,000 tons Mar. 7; minimum daily, 19 tons Nov. 1.
EXTREMES, 1963-67.--Sediment concentrations: Maximum daily, 540 ppm Apr. 23, 1964; minimum daily, 0 ppm on many days during August and September 1964.
Sediment loads: Maximum daily, 480,000 tons Mar. 12, 1964; minimum daily, 0 tons on many days during August and September 1964.
REMARKS.--Sodium (Na) and potassium (K) values are calculated and reported as sodium. Records of specific conductance, pH, and temperature of sediment samples available in WRD office at Harrisburg, Pa. Sediment samples were collected in at least four verticles in the cross section. Flow affected by ice Dec. 4, 5, Dec. 25 to Jan. 4, Jan 11, 12, 17-19, Feb. 8-13, and Feb. 24 to Mar. 4.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Temperature (°F)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 14, 1966..	4550																				
East Channel																					
120		--						7.6		31	208	18		5.2		255	230		534	6.6	2
600		--						17		46	168	16		2.1		200	163		459	7.0	2
1180		--						13		9	167	11		2.4		170	163		400	6.3	2
West Channel																					
600		--						15		32	144	13		1.4		162	136		392	7.0	2
1100		--						23		98	66	22		1.3		130	50		361	7.9	2
1320		--						22		133	29	18		7.2		122	13		324	8.2	2
Nov. 15.....	15800																				
East Channel																					
120		45						17		24	166	12		6.1		178	159		416	6.3	1
600		45						15		11	141	9.5		3.0		140	131		338	6.1	1
1180		45						16		2	156	8.5		3.1		144	143		350	4.8	1
West Channel																					
600		47						13		2	155	8.0		2.3		148	147		352	5.4	2
1100		47						22		60	115	20		2.2		150	101		382	7.7	--
1320		47						22		168	42	30		5.7		180	43		432	7.8	--
Dec. 15.....	43100																				
East Channel																					
120		40						9.2		24	74	8.5		7.0		94	75		234	6.5	--
600		40						10		35	50	8.0		4.6		73	45		195	6.7	--
1180		40						6.7		12	44	5.0		3.0		51	41		136	6.5	--
West Channel																					
600		41						4.4		5	44	3.5		1.9		47	43		127	6.2	--
1100		41						8.5		38	40	8.0		4.2		69	38		181	6.8	--
1320		41						9.4		72	30	12		9.1		94	35		233	7.0	--
Jan. 26, 1967..	15300																				
East Channel																					
120		45						14		18	141	9.5		7.4		152	137		362	6.7	2
600		45						11		35	101	12		5.3		132	104		319	6.5	2
1180		45						7.8		18	84	8.0		3.5		100	85		251	6.4	2
West Channel																					
600		45						7.8		31	66	8.5		3.5		92	67		232	6.7	2
1100		45						11		71	39	13		3.4		96	38		252	6.9	2
1320		45						8.7		123	24	12		9.9		132	31		298	7.7	2

1-5705. SUSQUEHANNA RIVER AT HARRISBURG, PA.--Continued

Chemical analyses, in parts per million, water year October 1966 to September 1967--Continued

Date of collection	Mean discharge (cfs)	Temperature (°F)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
Feb. 23, 1967..	24200																				
East Channel																					
120		35						12		24	99	10		6.1		116	97		290	6.6	2
600		35						6.4		38	55	11		5.0		94	63		237	6.9	4
1180		35						9.4		15	59	7.0		3.1		66	54		178	6.8	2
West Channel																					
600		36						6.7		9	60	6.5		1.9		66	59		168	6.6	2
1100		36						11		51	41	12		3.7		80	38		207	7.0	3
1320		36						7.1		117	25	14		10		134	38		299	7.7	2
Apr. 26.....	39400																				
East Channel																					
120		50						6.7		27	85	6.5		3.7		108	86		263	6.6	7
600		50						7.1		40	48	7.0		2.8		80	47		195	6.8	9
1180		50						5.5		17	47	5.0		1.5		59	47		151	6.6	4
West Channel																					
600		52						3.2		13	47	3.5		.9		58	48		144	6.3	2
1100		52						6.2		52	29	7.0		1.5		70	28		169	6.7	4
1320		52						6.0		110	23	9.5		5.7		119	29		253	7.2	8
May 24.....	48000																				
East Channel																					
120		61						7.1		26	78	6.0		3.0		98	77		231	6.6	15
600		61						6.9		41	44	6.0		2.2		75	42		181	6.9	13
1180		60						3.0		20	41	4.0		1.4		59	43		142	6.7	5
West Channel																					
600		60						1.2		10	43	3.0		.8		55	47		131	6.5	3
1100		61						4.4		53	30	5.0		2.5		74	31		168	7.1	4
1320		63						1.8		97	23	8.0		6.5		116	37		231	7.5	--
June 19.....	19000																				
East Channel																					
120		77						6.4		34	14	5.0		2.7		174	146		395	6.5	6
600		77						8.5		52	88	10		.8		130	88		305	6.7	7
1180		77						6.7		23	59	5.5		2.6		76	57		191	6.6	5
West Channel																					
600		76						4.8		27	49	5.0		3.1		72	50		173	6.6	4
1100		76						11		77	41	9.0		1.3		95	32		236	7.1	4
1320		76						12		168	25	19		5.5		170	33		369	7.4	6

1-5705. SUSQUEHANNA RIVER AT HARRISBURG, PA.--Continued

Chemical analyses, in parts per million, water year October 1966 to September 1967--Continued

Date of collection	Mean discharge (cfs)	Temperature (°F)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
																Calcium, magnesium	Noncarbonate				
July 24, 1967..	10800																				
East Channel																					
120		80						9.9		36	155	8.5		3.2		184	155		417	6.8	2
600		80						12		56	82	9.0		1.5		118	72		282	6.8	3
1180		80						11		43	56	5.0		1.3		77	42		190	7.6	3
West Channel																					
600		80						6.9		44	50	6.5		1.5		83	47		203	7.7	4
1100		80						13		94	40	12		1.1		108	31		264	7.5	4
1320		80						14		155	24	20		5.9		155	28		347	7.9	4
Aug. 22.....	8800																				
East Channel																					
120		74						10		42	147	10		3.2		182	148		408	6.5	5
600		74						9.4		49	94	8.0		1.3		130	90		307	6.9	5
1180		74						7.8		33	71	7.0		1.1		95	68		233	6.8	3
West Channel																					
600		74						11		55	59	7.0		1.1		94	49		231	6.9	5
1100		74						14		94	43	12		1.4		110	33		268	7.3	8
1320		74						15		190	30	22		7.0		191	36		414	7.9	3
Sept. 21.....	6150																				
East Channel																					
120		73						12		43	153	12		2.8		188	153		426	6.8	7
600		73						18		80	94	12		1.3		142	77		363	8.1	6
1180		73						8.7		48	72	9.0		1.4		109	70		259	6.8	3
West Channel																					
600		74						8.5		48	67	8.5		1.6		104	65		254	6.8	2
1100		74						22		112	60	18		.7		133	41		351	7.4	2
1320		74						23		192	28	29		4.4		182	25		464	7.8	6

Particle-size analyses of suspended sediment, water year October 1966 to September 1967
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
Mar. 16, 1967.....	0945	40		154000	167			41	58	74	84	93	95	98	100			SCBW
Mar. 31.....	1410	46		168000	139			36	54	73	80	91	93	96	98	100		SCPW

1-5705. SUSQUEHANNA RIVER AT HARRISBURG, PA.--Continued

Suspended sediment, water year October 1966 to September 1967
(Where no daily concentrations are reported, loads are estimated)

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	5210	3	42	3600	2	19	62000	110 S	18000
2	6150	4	66	3600	3	29	58300	110	17000
3	7880	5	110	3880	3	31	43100	83	9700
4	9050	6	150	4260	3	34	32000	65	5600
5	8750	6	140	5100	4	55	24000	50	3200
6	8300	5	110	5900	4	64	22400	35	2100
7	7320	5	99	5540	3	45	20100	20	1100
8	6520	4	70	5430	3	44	19800	14	750
9	6020	4	65	5430	3	44	20300	14	770
10	5540	4	60	5650	3	46	26800	17 B	1200
11	5210	3	42	6400	3	52	38600	31 B	3200
12	4880	3	40	8020	8 B	170	43600	42 B	4900
13	4660	3	38	14200	35 B	1300	45800	42 B	5200
14	4550	3	37	16400	40 B	1800	47500	43 B	5500
15	4260	3	34	15800	30	1300	43100	33	3800
16	4170	3	34	14200	23	880	38300	23	2400
17	4080	3	33	13100	16	570	33700	18	1600
18	4170	3	34	12100	10	330	29700	15	1200
19	4360	4	47	10900	6	180	27300	15	1100
20	4260	4	46	10300	5	140	25200	15	1000
21	4360	4	47	9500	5	130	23100	15	940
22	4460	4	48	8900	5	120	21800	15	880
23	4660	4	50	8300	5	110	20500	15	830
24	4360	3	35	7740	5	100	19000	15	770
25	4260	3	34	7320	5	99	15000	--	500
26	4170	3	34	7320	5	99	13000	--	300
27	3980	3	32	7040	5	95	12000	--	200
28	3880	3	31	8300	8	180	11500	--	200
29	3880	3	31	32500	160 S	17000	11500	--	200
30	3790	2	20	73800	240	48000	12000	--	200
31	3700	2	20	--	--	--	12000	--	200
TOTAL	160840	--	1679	340530	--	73066	873000	--	94540

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	12500	--	300	48600	47	6200	13000	12	420
2	13500	--	400	41500	25	2800	12500	12	400
3	14000	--	400	39100	--	2000	14000	12	450
4	14500	--	500	38800	--	2000	16500	14	620
5	15100	15	610	42000	--	3000	18200	14	690
6	14000	15	570	44200	--	3000	35500	33	3200
7	13100	14	500	40400	--	2000	94400	290 S	74000
8	13300	14	500	31000	--	1000	88200	210	50000
9	12600	14	480	27000	15	1100	67500	120	22000
10	12900	14	490	24000	15	970	55100	70	10000
11	12500	14	470	25000	15	1000	59400	40	6400
12	12000	14	450	25000	15	1000	78600	42	8900
13	12100	14	460	24000	15	970	116000	130 S	42000
14	12400	14	470	23300	15	940	134000	150	54000
15	12100	14	460	20300	15	820	123000	90	30000
16	12200	14	460	19600	15	790	158000	110	47000
17	11500	12	370	21800	15	880	174000	150 S	68000
18	11000	12	360	25600	15	1000	138000	110	41000
19	9000	10	240	30200	15	1200	110000	67	20000
20	7740	8	170	31400	15	1300	82200	34	7500
21	8750	8	190	29000	15	1200	66700	23	4100
22	11600	10	310	26800	15	1100	58800	21	3300
23	12400	10	330	24200	15	980	53600	21	3000
24	12900	10	350	21000	15	850	50300	21	2900
25	12800	10	340	15000	12	490	46900	21	2700
26	15300	10	410	11000	12	360	46900	21	2700
27	26300	22	1600	13000	12	420	50000	22	3000
28	45200	51	6200	13500	12	440	63500	26	4500
29	62300	85	14000	--	--	--	92200	38	9500
30	65800	95	17000	--	--	--	135000	82	30000
31	59700	72	12000	--	--	--	167000	140 S	64000
TOTAL	581090	--	61390	776300	--	39810	2419000	--	616280

S Computed by subdividing day.
B Computed from estimated-concentration graph.

1-5705. SUSQUEHANNA RIVER AT HARRISBURG, PA.--Continued

Suspended sediment, water year October 1966 to September 1967--Continued
(Where no daily concentrations are reported, loads are estimated)

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	145000	110	43000	47500	22	2800	29500	24	1900
2	124000	64	21000	43400	22	2600	26600	24	1700
3	110000	49	15000	42800	22	2500	24500	22	1500
4	100000	45	12000	48600	27	3500	22200	20	1200
5	90000	42	10000	51400	26	3600	20500	18	1000
6	78000	40	8400	50300	25	3400	18800	15	760
7	68700	39	7200	51100	27	3700	17400	13	610
8	67800	43	7900	71800	56	11000	16000	10	430
9	70100	48	9100	89000	70	17000	15300	7	290
10	62300	43	7200	91800	60	15000	14200	7	270
11	57700	35	5400	84300	36	8200	13500	6	220
12	53100	27	3900	86700	32	7500	12800	6	210
13	50600	24	3300	98100	46	12000	12600	6	200
14	46900	22	2800	107000	50	14000	12600	6	200
15	43100	19	2200	93000	42	10000	12800	7	240
16	40100	16	1700	86700	37	8700	14200	9	340
17	36000	14	1400	101000	43	12000	14400	12	470
18	35700	12 A	1200	106000	45	13000	15800	18	770
19	39600	18 A	1900	86700	40	9400	19000	33	1700
20	43600	22 A	2600	71900	35	6800	20500	42	2300
21	46900	24 A	3000	64600	31	5400	17400	32	1500
22	44200	21	2500	59400	27	4300	19200	28	1400
23	41500	18	2000	54500	26	3800	19000	24	1200
24	41200	18	2000	48000	26	3400	19000	22	1100
25	39400	18	1900	42800	25	2900	19200	17	880
26	39400	18	1900	38300	24	2500	17000	12	550
27	41500	20	2200	34400	23	2100	14500	10	390
28	48600	22	2900	31200	22	1800	12900	9	310
29	52000	24	3400	28800	21	1600	12200	8	260
30	51100	23	3200	29000	21	1600	11400	7	220
31	--	--	--	30400	25	2000	--	--	--
TOTAL	1808100	--	192200	1970500	--	198100	515000	--	24120

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	10300	6	170	18800	24	1200	19800	47	2500
2	10100	7	190	16400	18	800	17200	25	1200
3	10300	8	220	16400	18 B	800	15800	13	550
4	10600	6	170	20900	27 B	1500	14500	11	430
5	11700	8	250	33000	53 B	4700	13100	10	350
6	11700	7	220	34200	54	5000	12400	8	270
7	11400	6	180	33000	55	4900	11400	6	180
8	11100	5	150	27800	41	3100	10100	6	160
9	12600	9	310	24900	31	2100	9350	5	130
10	11900	8	260	24200	28	1800	8750	5	120
11	11700	9	280	22200	19	1100	8160	5	110
12	13300	10	360	19400	16	840	8600	6	140
13	14900	12	480	17200	15	700	9050	5	120
14	15100	12	490	15800	14	600	8750	5	120
15	16000	12	520	14500	14	550	8450	5	110
16	15500	12	500	13000	13	460	8300	5	110
17	15100	11	450	11500	12	370	8300	5	110
18	13500	10	360	10500	11	310	7880	5	110
19	12600	9	310	9600	10	260	7180	5	97
20	11600	8	250	9200	9	220	6650	5	90
21	10600	8	230	8600	8	180	6150	5	83
22	9800	7	180	8800	8	190	6280	5	85
23	9800	8	210	9650	10	260	6780	5	92
24	10800	8	230	9500	10	260	7180	5	97
25	15800	28 B	1200	9350	8	200	6780	5	92
26	18800	41 B	2100	9200	8	200	6650	5	90
27	15800	37 A	1600	10400	7	200	6520	4	70
28	14200	33	1300	14200	12	460	6280	3	51
29	15700	33	1400	22100	27	1600	6900	3	56
30	19200	34	1800	33200	70	6300	14700	--	600
31	20500	30	1700	24200	58	3800	--	--	--
TOTAL	412000	--	18070	551700	--	44960	287940	--	8323

TOTAL DISCHARGE FOR YEAR (CFS-DAYS)..... 10696000
TOTAL LOAD FOR YEAR (TONS)..... 1372538

A Computed from partly estimated-concentration graph.
B Computed from estimated-concentration graph.

1-5750. SOUTH BRANCH CODORUS CREEK NEAR YORK, PA.

LOCATION.--Lat 39°55'10", long 76°45'00", sediment samples are collected at the overflow of the York Water Co. pumping station dam, 100 feet upstream from the gaging station, 300 feet upstream from the Pennsylvania Railroad bridge, 0.5 mile upstream from mouth, and 3 miles southwest of York, York County.
DRAINAGE AREA.--117 square miles.
RECORDS AVAILABLE.--Sediment records: August 1966 to September 1967.
EXTREMES, 1966-67.--Sediment concentrations: Maximum daily, 2,500 ppm Mar. 7; minimum daily, 3 ppm Dec. 21-24.
Sediment loads: Maximum daily, 8,000 tons Mar. 7; minimum daily, no flow on many days during October and November.
REMARKS.--Records of specific conductance, pH, and temperature of sediment samples available in the WRD office at Harrisburg, Pa. Diversion of water upstream from the gaging station by the York Water Co. resulted in little or no flow at the gaging station on many days. Miscellaneous determinations of suspended-sediment discharge collected prior to the 1967 water year are published in part 2 of the 1966 water quality records report for Pennsylvania.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
Jan. 27, 1967..	128	6.9		0.01	0.00	19	4.0	7.0	3.8	40	18	14	0.2	14	115	64	31		178	7.1	5

Particle-size analyses of suspended sediment, water year October 1966 to September 1967
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters: 0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	Method of analysis
Nov. 3, 1966.....	0235	60		121	55		--	--	--	--	--	98	100	--				S
Nov. 28.....	2240	51		286	341		--	47	68	88	90	100	--	--				SCPW
Jan. 27, 1967.....	2120	46		361	1510		--	52	72	89	97	100	--	--				SCBW
Jan. 27.....	2120	46		361	1510		--	22	38	60	85	100	--	--				SBN
Mar. 7.....	1840	39		1660	1180		--	38	54	70	84	90	97	99	99	99	100	SCPW
May 7.....	2130	51		292	185		--	44	61	81	99	100	--	--				SCBW
May 11.....	2315	53		234	119		--	56	74	88	98	100	--	--				SCBW
June 23.....	0545	73		65	102		44	75	88	98	100	--	--	--				SCBW
June 30.....	1030	69		206	162		40	59	75	90	97	100	--	--				SCBW
July 3.....	0750	72		547	617		26	43	63	82	91	99	100	--				SCPW
July 5.....	0545	66		234	249		37	55	73	90	97	100	--	--				SCBW
July 22.....	0040	76		574	3030		--	54	75	91	98	99	100	--				SCPW
July 30.....	0445	72		513	517		27	43	63	83	95	99	100	--				SCPW
Aug. 5.....	0330	74		547	649		29	46	63	86	94	99	100	--				SCPW
Aug. 25.....	1010	65		352	195		29	42	57	76	90	98	99	100				SCBW
Aug. 27.....	2130	69		439	1400		31	48	70	92	100	--	--	--				SCPW

1-5750. SOUTH BRANCH CODORUS CREEK NEAR YORK, PA.--Continued

Suspended sediment, water year October 1966 to September 1967
(Where no daily concentrations are reported, loads are estimated)

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	24	--	2.0	0	--	0	94	30	7.6
2	40	--	3.0	0	--	0	74	20	4.0
3	2.3	--	.1	114	490 S	230	47	15	1.9
4	3.5	--	.1	14	43	1.6	28	10	.8
5	0	--	0	7.3	12	.2	27	8	.6
6	0	--	0	7.3	10	.2	31	8	.7
7	0	--	0	6.0	10	.2	29	10	.8
8	0	--	0	0	--	0	28	12	.9
9	0	--	0	1.4	5	T	24	10	.6
10	0	--	0	0	--	0	27	10	.7
11	.2	--	T	15	--	.4	48	--	4.0
12	0	--	0	14	--	.3	28	8	.6
13	0	--	0	7.3	10	.2	30	8	.6
14	0	--	0	4.6	5	.1	31	7	.6
15	0	--	0	0	--	0	28	5	.4
16	0	--	0	.1	5	T	24	8	.5
17	0	--	0	0	--	0	27	10	.7
18	0	--	0	0	--	0	43	28 S	3.6
19	21	14 S	1.9	0	--	0	49	9	1.2
20	22	23	1.4	0	--	0	41	4	.4
21	1.3	11	T	0	--	0	36	3	.3
22	1.4	10	T	.4	5	T	38	3	.3
23	.6	10	T	.3	5	T	29	3	.2
24	.9	10	T	.3	5	T	30	3	.2
25	0	--	0	.1	5	T	35	4	.4
26	0	--	0	2.0	8	T	43	6	.7
27	0	--	0	18	10	.5	33	5	.4
28	0	--	0	105	68 S	41	20	4	.2
29	.2	10	T	112	110 S	49	98	42 S	15
30	.4	10	T	55	21	3.1	114	26 S	8.3
31	0	--	0	--	--	--	62	16	2.7
TOTAL	117.8	--	8.6	484.1	--	326.9	1296	--	59.9

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	65	15	2.6	70	12	2.3	25	10	0.7
2	67	13	2.4	73	15	3.0	24	15	1.0
3	55	10	1.5	82	30	6.6	27	20	1.4
4	57	10	1.5	65	20	3.5	28	20	1.5
5	62	8	1.3	74	20	4.0	60	28	4.5
6	48	5	.6	64	19	3.3	140	210 S	85
7	48	5	.6	46	19	2.4	1260	2500 S	8000
8	140	110 S	54	65	15	2.6	697	240 S	480
9	179	64 S	32	62	15	2.5	513	140 S	190
10	127	14	4.8	62	12	2.0	361	45	44
11	108	12	3.5	65	12	2.1	266	40	29
12	89	10	2.4	71	15	2.9	217	35	20
13	86	8	1.8	57	8	1.2	210	30	17
14	89	8	1.9	57	8	1.2	192	32	16
15	101	15	4.1	70	12	2.3	224	30	18
16	78	10	2.1	103	--	5.0	210	30	17
17	73	6	1.2	76	19	3.9	190	28	14
18	64	6	1.0	74	19	3.8	186	25	12
19	49	6	.8	71	19	3.6	173	20	9.3
20	54	6	.9	70	19	3.6	148	15	6.0
21	62	6	1.0	76	12	2.5	156	18	7.6
22	54	6	.9	68	11	2.0	166	20	9.0
23	61	8	1.3	70	12	2.3	186	25	13
24	57	10	1.5	55	10	1.5	158	20	8.5
25	52	10	1.4	44	10	1.2	130	15	5.3
26	34	10	.9	48	9	1.2	134	15	5.4
27	128	610 S	430	49	9	1.2	121	15	4.9
28	148	280 S	140	47	9	1.1	112	18	5.4
29	89	30	7.2	--	--	--	91	15	3.7
30	79	20	4.3	--	--	--	71	15	2.9
31	70	12	2.3	--	--	--	64	14	2.4
TOTAL	2473	--	711.8	1834	--	74.8	6540	--	9034.5

S Computed by subdividing day.
T Less than 0.05 ton.

1-5750. SOUTH BRANCH CODORUS CREEK NEAR YORK, PA.--Continued

Suspended sediment, water year October 1966 to September 1967--Continued
(Where no daily concentrations are reported, loads are estimated)

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	62	13	2.2	46	15	1.9	36	12	1.2
2	61	12	2.0	36	14	1.4	33	10	.9
3	58	10	1.6	52	--	3.0	24	10	.6
4	50	8	1.1	36	12	1.2	35	15	1.4
5	53	10	1.4	32	11	1.0	24	14	.9
6	54	10	1.4	60	--	3.0	14	13	.5
7	92	130 S	34	190	94 S	65	23	--	1.0
8	64	32	5.5	162	50 S	25	11	13	.4
9	53	10	1.4	144	23	8.9	8.8	13	.3
10	54	8	1.2	138	--	10	17	15	.7
11	44	10	1.2	117	32 S	17	18	20	1.0
12	42	10	1.1	152	40 S	19	12	20	.6
13	41	10	1.1	99	--	10	3.9	18	.2
14	41	11	1.2	114	--	10	2.4	15	.1
15	42	10	1.1	128	--	20	1.2	15	T
16	43	12	1.4	103	25	7.0	12	30 B	1.0
17	52	20	2.8	79	25	5.3	3.6	20	.2
18	58	23	3.6	78	25	5.3	9.9	20	.5
19	41	15	1.7	65	25	4.4	9.3	30	.8
20	36	10	1.0	68	20	3.7	8.8	40	1.0
21	35	10	.9	61	15	2.5	5.6	40	.6
22	42	10	1.1	65	15	2.6	9.9	--	1.0
23	46	10	1.2	60	14	2.3	40	62 S	7.3
24	38	10	1.0	62	14	2.3	17	30	1.4
25	34	9	.8	44	14	1.7	12	20	.6
26	32	9	.8	40	14	1.5	6.4	20	.3
27	92	--	6.0	52	14	2.0	3.6	20	.2
28	61	20	3.3	43	15	1.7	2.0	20	.1
29	52	20	2.8	61	15	2.5	.3	20	T
30	44	15	1.8	58	18	2.8	103	190 S	75
31	--	--	--	41	15	1.7	--	--	--
TOTAL	1517	--	87.7	2486	--	245.7	506.7	--	99.9

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)	MEAN DISCHARGE (CFS)	MEAN SEDIMENT CONCEN-TRATION (MG/L)	SEDIMENT LOAD (TONS PER DAY)
1	39	83 S	10	29	15	1.2	30	19	1.5
2	26	57	4.0	21	13	.7	35	20	1.9
3	256	390 S	380	16	10	.4	44	24	2.8
4	47	61 S	7.6	154	280 S	150	36	21	2.0
5	117	180 S	56	224	290 S	240	31	19	1.6
6	40	59	6.4	60	30	4.9	21	20	1.1
7	27	35	2.6	41	15	1.7	22	20	1.2
8	22	30	1.8	166	380 S	300	20	20	1.1
9	31	25	2.1	130	260 S	120	26	20	1.4
10	55	310 S	90	609	830 S	2000	36	25	2.4
11	144	380 S	190	136	50	18	24	22	1.4
12	32	51	4.4	91	40	9.8	19	21	1.1
13	13	36	1.3	84	35	7.9	20	20	1.1
14	12	29	.9	64	35	6.0	17	20	.9
15	61	44	7.2	48	35	4.5	12	22	.7
16	44	43	5.1	46	34	4.2	20	20	1.1
17	19	22	1.1	36	33	3.2	26	25	1.8
18	21	25	1.4	33	32	2.8	13	26	.9
19	15	20	.8	38	35	3.6	8.8	27	.6
20	8.8	15	.4	39	40	4.2	10	30	.8
21	61	570 S	400	34	42	3.8	16	33	1.4
22	160	720 S	660	29	44	3.4	19	37	1.9
23	27	40	2.9	26	30	2.1	18	30	1.5
24	17	30	1.4	35	20	1.9	24	20	1.3
25	22	30	1.8	217	92 S	66	12	15	.5
26	12	20	.6	81	23	5.0	8.8	13	.3
27	6.8	10	.2	154	350 S	240	12	15	.5
28	9.3	10	.2	241	130 S	120	12	18	.6
29	26	26	1.8	76	29	6.0	25	20	1.4
30	203	190 S	150	55	25	3.7	18	20	1.0
31	44	30	3.6	44	22	2.6	--	--	--
TOTAL	1617.9	--	1995.6	3057	--	3337.6	635.6	--	37.8

TOTAL DISCHARGE FOR YEAR (CFS-DAYS).....22565.1
TOTAL LOAD FOR YEAR (TONS).....16020.8

S Computed by subdividing day.
T Less than 0.05 ton.
B Computed from estimated-concentration graph.

1-5765. CONESTOGA CREEK AT LANCASTER, PA.

LOCATION.--Lat 40°03'00", long 76°16'40", at raw water intake, Lancaster, Lancaster County, 500 feet upstream from gaging station at Pennsylvania Railroad bridge, and 0.8 mile east of Lancaster.
DRAINAGE AREA.--324 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1947 to September 1950, October 1958 to September 1967.
Water temperatures: October 1947 to September 1950, October 1958 to September 1967.
EXTREMES, 1966-67.--Specific conductance: Maximum daily, 478 micromhos July 26; minimum daily, 213 micromhos May 8.
Water temperatures: Maximum, 78°F July 28; minimum, freezing point Dec. 25, 26, Feb. 27, 28, Mar. 1, 2.
EXTREMES, 1947-50, 1958-67.--Dissolved solids (1947-49): Maximum, 276 ppm July 11-20, 1948; minimum, 156 ppm Apr. 11-20, 1948.
Hardness (1947-50): Maximum, 193 ppm Sept. 1-10, 1948; minimum, 109 ppm May 21-31, 1950.
Specific conductance: Maximum daily, 507 micromhos Sept. 13, 1966; minimum daily, 142 micromhos Jan. 6, 1949.
Water temperatures: Maximum, 83°F June 30 to July 3, 1959; minimum, freezing point on many days during winter months.
REMARKS.--Where no potassium (K) is reported, sodium (Na) and potassium (K) are calculated and reported as sodium (Na).

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 1-10, 1966	101	11		0.00	0.00	52	15	12	5.6	160	39	17	0.1	20	256	191	60		407	7.6	3
Nov. 1-10.....	70							11		195	36	18		13		210	50		437	7.4	7
Dec. 1-10.....	118							11		155	39	18		15		182	55		398	7.4	8
Jan. 1, 3, 5, 1967.....	239							10		128	36	21		19		166	61		368	7.3	3
Feb. 1-10.....	300							9.7		160	37	16		26		192	61		412	7.6	1
Mar. 1-10.....	1240							6.4		134	35	14		25		172	62		362	7.5	5
Apr. 1-10.....	400							7.6		148	32	12		23		174	53		370	7.4	6
May 1-10.....	377							6.9		120	29	12		17		144	46		304	7.4	4
June 1-10.....	184							8.5		160	28	13		21		177	46		369	7.7	4
July 1-10.....	184							11		157	28	13		21		170	42		361	7.4	4
Aug. 1-10.....	800							8.5		136	31	12		19		158	47		338	7.2	7
Sept. 1-10.....	135							11		190	30	16		23		204	49		427	8.2	6

1-5765. CONESTOGA CREEK AT LANCASTER, PA.--Continued

Specific conductance (micromhos at 25°C), water year October 1966 to September 1967

Day	October	November	December	January	February	March	April	May	June	July	August	September
1.....	439	446	307	337	406	424	377	339	336	411	301	396
2.....	442	442	343	--	412	415	383	349	357	378	370	406
3.....	407	451	369	391	408	414	378	338	366	373	373	423
4.....	437	448	388	--	385	416	379	307	369	303	--	427
5.....	368	441	405	386	397	399	383	316	372	318	216	428
6.....	381	445	408	--	410	355	387	335	377	337	308	426
7.....	396	441	419	--	401	270	382	307	381	357	368	433
8.....	409	435	427	--	414	262	359	213	381	378	389	432
9.....	423	431	425	--	440	324	355	265	386	394	397	441
10.....	435	427	424	--	441	348	370	291	382	394	396	441
11.....	436	435	413	360	409	360	377	303	384	352	303	435
12.....	446	429	398	388	410	367	384	261	392	339	346	431
13.....	460	416	399	410	406	369	387	278	398	339	380	434
14.....	--	413	398	415	404	377	389	317	396	366	404	435
15.....	462	398	389	418	424	376	387	317	404	400	404	436
16.....	464	395	393	--	427	367	389	297	402	414	412	430
17.....	464	401	397	359	364	364	387	292	392	384	416	446
18.....	467	402	407	394	327	378	386	320	399	349	418	435
19.....	462	404	414	425	370	390	364	328	292	373	421	447
20.....	419	410	415	417	398	396	368	331	287	398	420	442
21.....	354	413	415	428	417	391	380	332	311	410	420	442
22.....	350	413	396	426	413	379	385	338	338	421	420	444
23.....	349	416	397	414	413	376	377	348	317	427	418	432
24.....	370	424	405	415	404	374	373	346	324	435	421	412
25.....	384	246	410	--	416	372	370	346	338	464	408	423
26.....	401	425	404	373	430	366	370	353	358	478	378	423
27.....	413	417	406	--	436	374	376	359	370	434	363	425
28.....	426	424	407	--	430	377	256	360	384	407	365	420
29.....	435	246	408	--	--	387	294	364	397	449	355	443
30.....	450	264	363	359	--	341	322	355	406	403	375	433
31.....	443	--	--	417	--	368	--	304	--	310	380	--
Average	419	406	398	--	407	370	369	319	366	386	378	430

Temperature (°F) of water, water year October 1966 to September 1967

MONTH	DAY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER..	54	55	55	56	58	58	55	57	58	62	58	57	57	--	58	59	58	55	55	52	54	51	52	53	54	52	52	50	52	49	47	54
NOVEMBER.	47	53	53	50	46	46	46	46	47	50	54	53	51	49	45	44	47	48	48	45	42	41	40	39	41	45	45	46	48	45	--	46
DECEMBER.	42	43	39	39	34	35	38	40	42	46	49	46	42	38	39	37	37	37	38	36	34	35	30	34	32	32	33	34	35	34	--	37
JANUARY..	34	34	34	35	36	--	--	--	--	--	35	35	34	36	38	37	37	35	34	35	34	39	43	43	45	47	45	41	--	34	34	37
FEBRUARY.	36	40	39	38	39	39	34	33	33	33	33	34	33	33	37	44	36	35	35	36	36	36	38	36	34	35	32	32	--	--	--	35
MARCH....	32	32	37	42	39	38	34	35	41	44	47	47	47	46	48	43	41	38	38	39	40	40	41	41	43	46	48	48	46	45	50	42
APRIL....	52	54	59	53	52	53	53	51	52	53	52	49	49	49	56	58	57	53	51	50	53	56	56	54	49	50	49	45	50	55	--	52
MAY.....	56	60	59	59	56	58	53	49	50	51	51	51	52	52	53	53	54	55	59	61	60	57	57	58	57	57	59	63	64	59	61	56
JUNE.....	62	63	66	67	69	70	70	71	72	74	76	75	73	75	72	74	76	77	72	68	70	73	72	73	76	74	73	72	71	69	--	71
JULY.....	70	70	73	71	69	69	70	70	70	74	72	72	74	76	75	72	73	73	74	74	76	75	76	76	77	77	77	76	74	72	73	73
AUGUST...	73	74	76	--	70	68	68	72	70	70	70	68	67	67	68	68	69	71	72	73	71	70	71	68	64	63	66	67	68	67	70	69
SEPTEMBER	70	65	64	65	68	68	67	70	68	68	63	63	62	62	64	65	66	68	68	70	70	68	62	60	57	57	58	62	70	64	--	65

MISCELLANEOUS ANALYSES OF STREAMS IN NORTH ATLANTIC SLOPE BASINS

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
DELAWARE RIVER BASIN																					
1-4267. BALLS CREEK NEAR WINTERDALE, PA. (lat 41°58'05", long 75°20'10")																					
Apr. 24, 1967..	28.5							A2.3		14	11	2.0		0.1		21	10		56	6.4	6
1-4273. LITTLE EQUINUNK CREEK AT STALKER, PA. (lat 41°49'30", long 75°07'15")																					
Apr. 24, 1967..	38.3							A4.4		18	13	2.5		0.5		23	8		64	6.6	4
1-4274. HOLLISTER CREEK NEAR ABRAHAMSVILLE, PA. (lat 41°46'05", long 75°05'05")																					
Oct. 14, 1966..	0.6							A4.1		28	14	4.0		0.3		34	11		88	6.9	4
Apr. 13, 1967..	12.8							A2.8		15	14	2.5		1.9		26	14		68	6.2	6
Sept. 19.....	1.3					9.4	2.0	A3.9		27	11	3.5		1.7		32	10		83	7.3	3
1-4276. BEAVERDAM CREEK AT DAMASCUS, PA. (lat 41°42'10", long 75°04'05")																					
Oct. 14, 1966..	1.0							A4.8		30	17	5.0		0.6		39	15		104	6.7	2
Apr. 13, 1967..	16.9							A4.1		15	16	3.0		2.3		26	14		72	7.1	9
Sept. 20.....	.8							A6.4		39	10	4.5		.3		35	3		99	7.8	3
1-4277. CALKINS CREEK AT MILANVILLE, PA. (lat 41°40'10", long 75°04'10")																					
Apr. 21, 1967..	86.5							A3.7		19	18	2.5		0.8		30	15		79	6.6	15
1-4282. MASTHOPE CREEK AT MASTHOPE, PA. (lat 41°32'15", long 75°01'40")																					
Apr. 21, 1967..	52.6							A3.0		22	13	2.5		0.4		29	11		71	6.6	20
1-4316.5. WEST BRANCH WALLENPAUPACK CREEK NEAR HAMLIN, PA. (lat 41°22'25", long 75°23'28")																					
Apr. 24, 1967..	70.3							A4.1		20	15	5.0		1.1		31	15		82	6.5	20
1-4321. BLOOMING GROVE CREEK NEAR ROWLAND, PA. (lat 41°28'00", long 75°04'35")																					
Apr. 21, 1967..	58.6							A5.1		12	12	2.5		0.2		15	5		48	6.5	18
1-4326. WALKER LAKE CREEK NEAR SHOHOLA, PA. (lat 41°26'05", long 74°53'20")																					
Apr. 12, 1967..	33.7							A3.0		9	11	2.0		0.6		16	9		44	6.7	15
Sept. 26.....	8.1							A7.8		B 35	8.8	1.5		.3		28	0		70	8.7	3
1-4337. BUSH KILL AT MILLRIFT, PA. (lat 41°24'30", long 74°44'35")																					
Sept. 27, 1967.	1.2							A1.2		18	8.8	0.5		0.0		22	7		51	6.7	3
1-4382. CUMMINS CREEK NEAR MILFORD, PA. (lat 41°20'40", long 74°45'41")																					
Apr. 16, 1967..	9.8							A2.5		8	13	1.5		0.5		17	11		45	6.4	5
Sept. 20.....	.9							A19		C0	12	2.5		.1		35	0		108	9.4	4
1-4383. VANDERMARK CREEK AT MILFORD, PA. (lat 41°19'35", long 74°47'50")																					
Sept. 26, 1967.	1.7							A20		D0	11	1.5		0.4		38	0		106	9.6	4

A Calculated Na plus K, reported as Na.
B Includes 6 ppm of carbonate (CO_3).
C 33 ppm carbonate (CO_3) and 1.7 ppm hydroxide (OH).
D 27 ppm carbonate (CO_3) and 7.5 ppm hydroxide (OH).

MISCELLANEOUS ANALYSES OF STREAMS IN NORTH ATLANTIC SLOPE BASINS--Continued

Chemical analyses, in parts per million, water year October 1966 to September 1967--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
DELAWARE RIVER BASIN--Continued																					
1-4389. DINGMANS CREEK AT DINGMANS FERRY, PA. (lat 41°13'30", long 74°52'50")																					
Apr. 12, 1967	33.3							A3.2		10	12	2.0		0.4		17	9		50	6.2	17
Sept. 21	3.6							A5.3		22	9.2	2.0		.2		19	1		59	7.0	3
1-4397. LITTLE BUSH KILL AT BUSHKILL, PA. (lat 41°05'30", long 75°00'10")																					
Apr. 20, 1967	64.2							A1.8		8	11	0.5		0.6		15	9		42	6.4	40
1-4402. DELAWARE RIVER BELOW TOCKS ISLAND DAMSITE NEAR DELAWARE WATER GAP, PA. (lat 41°00'42", long 75°05'09")																					
June 12, 1967	E1840	1.1		0.00	0.00	9.5	1.5	2.5	1.0	20	13	4.6	0.0	1.1	54	30	13		78	6.7	2
July 19	E2250	4.4		.03	.00	7.0	1.5	3.0	1.0	16	13	4.0	.0	1.5	44	24	11		70	6.3	8
1-4405. PARADISE CREEK AT HENRYVILLE, PA. (lat 41°06'00", long 75°15'05")																					
Nov. 2, 1966	16.9							A5.8		16	9.3	7.0		1.1		21	8		74	6.8	2
Apr. 20, 1967	60.5							A4.1		13	9.8	5.5		.8		20	10		59	6.3	3
1-4426. MARSHALL CREEK AT MINISINK HILLS, PA. (lat 40°59'50", long 75°08'25")																					
Apr. 20, 1967	46.1							A3.9		27	19	4.5		0.2		40	18		100	6.8	6
1-4427. CHERRY CREEK AT DELAWARE WATER GAP, PA. (lat 40°58'45", long 75°09'40")																					
Apr. 12, 1967	42.0							A4.8		76	24	3.0		1.3		82	20		168	7.8	4
Sept. 26	14							A3.9		102	21	2.0		1.4		101	18		210	7.9	3
1-4467. DELAWARE RIVER AT EASTON, PA. (lat 40°42'43", long 75°11'48")																					
July 19, 1967		6.9		0.00	0.05	25	9.0	11	4.3	60	53	14	0.3	10	159	100	51		291	6.7	7
1-4473. CHOKE CREEK NEAR THORNHURST, PA. (lat 41°09'40", long 75°36'10")																					
Apr. 19, 1967	16.6							A2.8		4	7.8	1.5		0.4		8	5		28	5.8	12
1-4477. TUNKHANNOCK CREEK NEAR FERNRIDGE, PA. (lat 41°03'25", long 75°33'15")																					
Apr. 20, 1967	51.2							A1.6		5	5.9	2.0		0.8		10	6		31	6.5	55
1-4477.5. BEAR CREEK NEAR WHITE HAVEN, PA. (lat 41°10'42", long 75°45'21")																					
Apr. 19, 1967	71.8							A4.6		6	8.4	7.5		0.2		14	9		54	6.2	5
1-4492. MAHONING CREEK AT MANTZVILLE, PA. (lat 40°46'12", long 75°52'15")																					
Apr. 19, 1967	7.5							A4.4		11	7.6	6.0		4.7		20	11		63	6.2	10

A Calculated Na plus K, reported as Na.
E Daily mean discharge.

MISCELLANEOUS ANALYSES OF STREAMS IN NORTH ATLANTIC SLOPE BASINS--Continued

Chemical analyses, in parts per million, water year October 1966 to September 1967--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
DELAWARE RIVER BASIN--Continued																					
1-4511.5. COPLAY CREEK AT MOUTH AT CATASAUQUA, PA. (lat 40°39'20", long 75°28'58")																					
July 25, 1967..		5.8		0.00	0.00	62	22.	8.8	8.4	125	146	13	0.2	8.7	429	245	143		586	7.9	5
1-4514.5. SWABIA CREEK AT MOUTH NEAR ALLENTOWN, PA. (lat 40°32'09", long 75°32'21")																					
July 27, 1967..		14		0.00	0.00	19	9.2	6.2	2.2	89	16	5.5	0.2	4.9	135	86	13		194	7.5	2
1-4515. LITTLE LEHIGH CREEK NEAR ALLENTOWN, PA. (lat 40°34'55", long 75°29'00")																					
June 26, 1967..	E49	11		0.00	0.00	34	18.	4.5	2.0	161	20	6.5	0.0	9.5	203	159	27		313	8.2	3
1-4516.2. LITTLE CEDAR CREEK NEAR ALLENTOWN, PA. (lat 40°35'44", long 75°32'11")																					
July 13, 1967..		7.8		0.00	0.00	48	14.	8.2	2.2	161	35	20	0.0	11	303	178	46		432	7.8	2
1-4517. SWITZER CREEK NEAR PLEASANT CORNERS, PA. (lat 40°39'34", long 75°41'33")																					
Mar. 13, 1967..	53.3	6.6	0.1	0.00	0.01	19	4.7	3.6	1.9	16	28	8.5	0.0	25	F135	67	54		170	7.0	10
Sept. 20.....		3.6		.01	.00	21	5.2	3.8	2.3	56	20	7.5	.0	13	G112	74	28		179	7.9	2
1-4517.4. LYON CREEK NEAR WEIDASVILLE, PA. (lat 40°38'29", long 75°39'45")																					
Mar. 13, 1967..	80.4	7.3	0.0	0.00	0.00	19	5.2	4.3	1.7	19	31	9.1	0.0	25	F128	69	54		177	6.9	5
Sept. 20.....	3.5	4.4		.00	.00	24	6.2	4.6	2.4	56	27	9.5	.2	13	H124	85	40		203	7.6	2
1-4517.5 MILL CREEK NEAR WEIDASVILLE, PA. (lat 40°39'05", long 75°38'19")																					
Mar. 13, 1967..	61.5	6.4	0.0	0.01	0.00	22	5.4	3.4	1.9	21	39	8.0	0.0	24	I131	77	60		190	6.9	10
Sept. 20.....	2.4	5.1		.00	.01	24	6.2	4.0	1.7	56	29	7.0	.0	12	J122	86	40		198	7.5	2
1-4518. JORDAN CREEK NEAR SCHNECKSVILLE, PA. (lat 40°39'45", long 75°37'40")																					
Mar. 13, 1967..	E356	6.9	0.0	0.02	0.00	19	4.7	3.6	1.7	18	32	8.0	0.1	24	F124	67	52		174	7.1	5
May 24.....	E48	--		--	--	--	--	A4.6	--	38	31	7.0	--	12	--	73	42		173	6.9	4
May 26.....	E42	--		--	--	--	--	A4.8	--	38	30	7.0	--	12	--	71	40		169	7.5	4
June 26.....	E9.4	6.2		.00	.00	21	5.8	4.6	1.8	53	25	7.9	.1	5.9	128	77	33		179	7.6	7
Sept. 20.....	E9.4	2.9		.00	.00	23	6.0	4.3	2.1	61	26	8.5	.0	12	K121	82	32		192	7.9	3
1-4518.4. JORDAN CREEK AT KERNSVILLE, PA. (lat 40°37'59", long 75°36'09")																					
July 11, 1967..		7.3		0.10	0.03	19	4.0	4.0	4.0	45	23.	8.0	0.0	6.3	102	64	27		166	6.9	14
1-4518.6. HASSEN CREEK AT MOUTH NEAR KERNSVILLE, PA. (lat 40°37'31", long 75°36'01")																					
July 11, 1967..		14		0.00	0.00	55	9.0	4.5	3.9	118	65.	7.5	0.0	8.2	222	174	78		354	8.1	3

A Calculated Na plus K, reported as Na.
E Daily mean discharge.
F Includes 0.00 ppm of copper (Cu); 0.02 ppm of zinc (Zn).
G Includes 0.00 ppm of copper (Cu); 0.89 ppm of zinc (Zn).
H Includes 0.00 ppm of copper (Cu); 4.1 ppm of zinc (Zn).
I Includes 0.00 ppm of copper (Cu); 0.01 ppm of zinc (Zn).
J Includes 0.00 ppm of copper (Cu); 1.1 ppm of zinc (Zn).
K Includes 0.00 ppm of copper (Cu); 1.7 ppm of zinc (Zn).

MISCELLANEOUS ANALYSES OF STREAMS IN NORTH ATLANTIC SLOPE BASINS--Continued

Chemical analyses, in parts per million, water year October 1966 to September 1967--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
DELAWARE RIVER BASIN--Continued																					
1-4520. JORDAN CREEK AT ALLENTOWN, PA. (lat 40°37'25", long 75°29'00")																					
June 26, 1967..	E14	5.5		0.00	0.00	50	13	28	2.6	152	95	10	0.1	2.2	296	179	54		451	8.2	3
Aug. 21.....	E26							A21		71	79	9.5		1.9		109	51		311	7.1	3
1-4591. BEAVER RUN TRIBUTARY AT QUAKERTOWN, PA. (lat 40°26'37", long 75°19'42")																					
Nov. 1, 1966...	0.5							A102		210	217	119		1.1		345	173		1070	7.8	
Apr. 20, 1967..	.8							A101		159	149	154		.3		284	154		984	7.4	7
Sept. 27.....	.3							A71		272	172	83		.5		366	143		943	8.0	33
1-4646.5. NORTH BRANCH NESHAMINY CREEK AT CHALFONT, PA. (lat 40°17'28", long 75°12'22")																					
Apr. 20, 1967..	7.9							A14		47	47	16		5.7		84	46		234	7.2	8
Sept. 27.....	.1							A16		67	45	18		.0	162	93	38		252	7.3	3
1-4647. PINE RUN NEAR NEW BRITAIN, PA. (lat 40°18'18", long 75°11'15")																					
Apr. 20, 1967..	9.3							A14		37	33	10		11		57	27		195	7.0	9
Sept. 27.....	2.0							A12		50	26	11		8.1	122	65	24		188	7.0	3
1-4655. NESHAMINY CREEK NEAR LANGHORNE, PA. (lat 40°10'25", long 74°57'30")																					
Oct. 20, 1966..	E1770	10		0.01	0.00	17	6.7	7.5	4.2	32	40	11	0.3	11	151	70	44		202	6.3	20
Dec. 3.....	E124	14		.00	.00	26	10	18	3.1	59	55	25	.2	12	216	106	58		315	6.8	7
Jan. 18, 1967..	E397	11		.00	.00	24	9.2	13	2.4	39	48	18	3.6	16	174	98	66		255	6.4	5
Feb. 27.....	E150	11		.00	.00	25	9.0	17	2.3	45	48	32	.0	14	195	100	63		308	7.1	12
Mar. 22.....	E422	11		.00	.00	20	8.0	16	2.0	37	44	20	.1	14	173	83	53		251	6.8	5
May 4.....	E190	--		--	--	--	--	A14	--	61	42	20	--	.2	--	92	42		267	6.8	8
June 16.....	E61	--		--	--	--	--	A17	--	88	43	22	--	7.8	--	118	46		310	7.3	12
Sept. 7.....	E115	--		--	--	--	--	A17	--	67	40	20	--	11	--	97	42		272	7.0	8
1-4657.7. POQUESSING CREEK AT TREVOSE ROAD, PHILADELPHIA, PA. (lat 40°07'55", long 74°59'40")																					
Jan. 18, 1967..								A12		49	33	24		2.6		84	44		246	6.9	2
Apr. 27.....								A13		34	31	16		3.8		58	30		181	6.9	45
Aug. 25.....								A12		64	27	12		4.2		74	22		204	6.7	12
1-4657.8. POQUESSING CREEK ABOVE BYBERRY CREEK AT PHILADELPHIA, PA. (lat 40°04'10", long 74°58'33")																					
Jan. 16, 1967..								A18		48	43	26		11		90	51		269	7.3	2
Apr. 27.....								A10		26	29	12		5.1		50	29		151	6.4	120
Aug. 22.....								A15		54	29	21		11		81	37		235	7.1	9
1-4657.85. WALTON RUN AT PHILADELPHIA, PA. (lat 40°05'22", long 74°59'37")																					
Jan. 19, 1967..								A26		41	55	38		20		104	71		352	6.8	2
Apr. 27.....								A30		74	35	10		4.6		49	0		222	8.2	170
Aug. 24.....								A31		51	37	36		14		76	34		310	7.0	12
1-4657.9. BYBERRY CREEK AT CHALFONT ROAD, PHILADELPHIA, PA. (lat 40°23'45", long 74°58'57")																					
Oct. 19, 1966..								A3.9		20	18	1.5		2.0		30	14		91	6.2	5
Apr. 27, 1967..								A8.0		22	28	7.5		6.1		45	27		135	6.4	45
May 7.....								A5.5		13	21	2.5		5.1		28	18		86	6.0	400
Aug. 23.....								A15		65	35	24		8.5		98	45		265	7.9	7

A Calculated Na plus K, reported as Na.
E Daily mean discharge.

MISCELLANEOUS ANALYSES OF STREAMS IN NORTH ATLANTIC SLOPE BASINS--Continued

Chemical analyses, in parts per million, water year October 1966 to September 1967--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
DELAWARE RIVER BASIN--Continued																					
1-4657.98. POQUESSING CREEK AT GRANT AVENUE, PHILADELPHIA, PA. (lat 40°03'25", long 74°59'08")																					
Jan. 12, 1967..								A18		47	44	28		12		94	56		287	6.6	2
Apr. 27.....								A8.5		26	27	9.5		4.3		48	27		141	6.6	120
Aug. 24.....								A16		63	30	24		10		89	38		253	6.5	3
1-4670.42 PENNYPACK CREEK AT PINE ROAD, PHILADELPHIA, PA. (lat 40°05'23", long 75°04'10")																					
Oct. 2, 1966...								A12		44	35	11		9.5		70	34		196	7.4	4
Oct. 18.....								A38		94	51	40		32		130	53		463	6.5	3
Jan. 12, 1967..								A20		56	49	28		21		110	64		325	6.7	2
Apr. 27.....								A12		36	30	15		7.5		62	33		189	6.5	25
Aug. 25.....								A4.4		55	32	20		11		106	61		230	6.6	11
1-4670.45 PENNYPACK CREEK BELOW VERREE ROAD, PHILADELPHIA, PA. (lat 40°05'04", long 75°03'34")																					
Jan. 12, 1967..								A21		56	52	28		20		110	64		320	6.6	1
Apr. 27.....								A11		34	29	13		8.3		60	32		181	6.5	10
Aug. 23.....								A21		63	41	30		14		102	51		300	7.4	9
1-4670.48. PENNYPACK CREEK AT LOWER RHAWN STREET BRIDGE, PHILADELPHIA, PA. (lat 40°03'00", long 75°01'59")																					
Jan. 12, 1967..								A22		62	52	29		17		112	61		328	6.7	2
Apr. 27.....								A7.8		36	27	13		7.6		65	36		184	6.5	35
Aug. 23.....								A17		68	38	24		10		100	45		287	6.5	1
Sept. 29.....								A12		36	24	12		9.7		54	25		165	7.3	16
1-4670.49. WOODEN BRIDGE RUN AT PHILADELPHIA, PA. (lat 40°03'19", long 75°01'22")																					
Oct. 19, 1966..								A3.2		18	16	1.5		3.0		29	14		82	7.1	5
Jan. 12, 1967..								A18		57	42	22		9.7		90	44		267	6.8	1
Apr. 27.....								A7.6		20	34	5.5		3.0		46	30		136	6.1	60
Sept. 29.....								A3.9		26	20	2.5		2.1		39	18		98	6.6	32
1-4670.84. TACONY CREEK AT COUNTY LINE, PHILADELPHIA, PA. (lat 40°02'47", long 75°06'41")																					
Oct. 2, 1966...								A15		59	37	21		7.8		90	42		262	6.7	3
Oct. 18.....								A24		84	59	39		11		142	73		424	6.8	5
Jan. 19, 1967..								A25		76	70	44		14		155	93		423	7.0	1
Aug. 25.....								A9.0		39	23	9.0		4.9		53	21		142	6.3	6
1-4670.88. FRANKFORD CREEK AT TORRESDALE AVENUE, PHILADELPHIA, PA. (lat 40°00'25", long 75°05'33")																					
Oct. 1, 1966...								A32		96	71	48		12		160	82		478	7.8	5
Oct. 19.....								A19		40	19	9.0		.6		24	0		129	6.2	3
Jan. 16, 1967..								A28		76	77	42		17		155	93		448	6.8	2
Apr. 27.....								A24		62	33	18		.6		59	8		218	6.2	25
May 7.....								A3.9		29	17	8.0		4.5		48	24		107	6.8	20
Aug. 28.....								A21		96	54	23		5.9		126	46		349	6.5	12
1-4707.5. SACONY CREEK AT VIRGINVILLE, PA. (lat 40°31'35", long 75°52'30")																					
Nov. 1, 1966...	8.8							A3.0		92	16	16		5.0		112	37		272	7.0	2
Apr. 21, 1967..	34.6							A7.4		70	32	12		8.7		99	42		229	7.6	8
Sept. 28.....	7.8					36	6.3	A14		111	27	18		3.2		116	25		301	6.7	2

A Calculated Na plus K, reported as Na.

MISCELLANEOUS ANALYSES OF STREAMS IN NORTH ATLANTIC SLOPE BASINS--Continued

Chemical analyses, in parts per million, water year October 1966 to September 1967--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
DELAWARE RIVER BASIN--Continued																					
1-4707.8. MILL CREEK NEAR BERNVILLE, PA. (lat 40°25'03", long 76°10'06")																					
Nov. 2, 1966...	2.5							A5.3		139	21	5.0		5.3		136	22		279	7.4	2
Apr. 25, 1967..	8.9							A6.0		122	26	6.0		9.3		130	30		268	8.0	13
Sept. 28.....	4.8					52	7.0	A4.6		153	24	7.0		10		159	33		324	7.3	2
1-4721.5. FRENCH CREEK AT COVENTRYVILLE, PA. (lat 40°10'16", long 75°41'26")																					
Apr. 21, 1967..	37.8							A6.0		35	15	4.5		2.0		39	11		107	6.6	7
May 5.....	--	14		0.00	0.00	15	3.2	5.5	1.5	42	16	7.5	0.1	5.1	95	51	16		132	7.5	2
Sept. 26.....	22.4							A5.5		37	8.4	4.0		.6		33	3		93	6.9	3
1-4721.74. PICKERING CREEK NEAR CHESTER SPRINGS, PA. (lat 40°05'22", long 75°37'50")																					
Feb. 19, 1967..	E5.8	17		0.00	0.00	15	4.9	7.6	1.8	39	19	12	0.0	7.8	105	58	26		159	7.6	1
May 5.....	E6.2	14		.00	.00	15	3.2	5.5	1.5	42	16	7.5	.1	5.1	95	51	16		132	7.5	2
Sept. 20.....	E3.2	19		--	--	17	4.5	5.0	2.3	56	13	7.1	.1	5.1	103	61	15		146	7.5	2
1-4721.76. PICKERING CREEK TRIBUTARY AT CHESTER SPRINGS, PA. (lat 40°06'03", long 75°37'38")																					
Feb. 2, 1967...		15		0.01	0.00	11	3.2	4.5	2.5	31	18	5.7	0.2	4.4	80	41	15		114	7.4	9
May 5.....		10		.00	.00	12	2.8	4.5	1.1	36	14	5.4	.0	.7	86	42	12		106	7.1	5
Sept. 20.....		--		--	--	13	3.4	A5.5	--	47	10	5.5	--	1.8	--	47	8		118	7.3	3
1-4721.8. PICKERING CREEK AT CHESTER SPRINGS, PA. (lat 40°05'44", long 75°37'07")																					
Apr. 21, 1967..	11.4							A7.4		41	16	6.5		4.0		46	13		133	6.6	6
Sept. 26.....	5.2							A7.8		54	14	7.0		2.4		54	10		142	6.9	2
1-4721.83. PINE CREEK AT CHESTER SPRINGS, PA. (lat 40°05'14", long 75°36'45")																					
May 5, 1967....		15		0.00	0.00	13	4.4	7.5	1.5	32	21	13	0.1	2.7	94	51	25		144	7.3	2
Sept. 21.....						12	5.1	A7.6		34	17	14		3.0		51	23		144	7.3	3
1-4721.85. PICKERING CREEK TRIBUTARY NEAR KIMBERTON, PA. (lat 40°06'49", long 75°36'18")																					
May 5, 1967....		14		0.00	0.00	16	3.8	3.1	1.1	47	17	5.1	0.0	2.4	106	56	17		134	7.2	2
Sept. 20.....						20	4.3	A6.4		66	13	7.0		5.0		68	14		157	7.6	3
1-4721.86. PIGEON RUN AT MERLIN, PA. (lat 40°05'37", long 75°34'54")																					
Feb. 20, 1967..		13		0.00	0.00	12	5.2	7.5	1.6	26	24	14	0.1	4.4	107	52	30		152	7.2	2
May 5.....		14		.00	.00	12	4.5	6.0	1.5	29	23	10	.1	3.1	95	49	25		138	7.4	5
Sept. 21.....		--		--	--	13	5.7	A6.0	--	36	17	14	--	2.9	--	56	27		149	7.3	6
1-4721.89. ROCK RUN AT CHARLESTOWN, PA. (lat 40°05'43", long 75°32'34")																					
Feb. 2, 1967...		14		0.00	0.00	20	6.5	7.0	2.1	57	32	8.5	0.2	4.4	135	77	30		195	7.6	2
May 5.....		15		.00	.00	19	6.1	6.3	2.2	54	28	8.5	.1	1.7	125	73	28		180	7.2	4
Sept. 20.....		--		--	--	15	5.4	A7.1	--	50	19	8.5	--	2.2	--	60	19		152	7.2	4

A Calculated Na plus K, reported as Na.
E Daily mean discharge.

MISCELLANEOUS ANALYSES OF STREAMS IN NORTH ATLANTIC SLOPE BASINS--Continued

Chemical analyses, in parts per million, water year October 1966 to September 1967--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
DELAWARE RIVER BASIN--Continued																					
1-4721.9. PICKERING CREEK NEAR PHOENIXVILLE, PA. (lat 40°06'33", long 75°31'42")																					
Feb. 2, 1967...	E41	16		0.14	0.00	14	4.9	5.8	1.6	38	22	9.5	0.0	3.6	104	55	24		149	7.5	2
May 5.....	E31	13		.00	.00	16	4.0	6.0	1.6	44	20	8.0	.0	2.5	100	57	21		146	7.3	2
Sept. 21.....	E19	--		--	--	16	5.1	A6.4	--	52	16	10	--	2.7	--	61	19		153	7.4	2
1-4721.95. INDIAN CREEK NEAR ZIONSVILLE, PA. (lat 40°27'32", long 75°31'20")																					
June 28, 1967..		21		0.00	0.00	12	4.7	5.8	1.2	43	21	4.4	0.1	3.8	102	50	15		135	7.7	5
1-4724. UNAMI CREEK NEAR TRUMBAUERSVILLE, PA. (lat 40°23'50". long 75°24'32")																					
Nov. 1, 1966...	6.7							A16		94	54	17		7.0		128	51		305	7.8	4
Apr. 20, 1967..	12.7							A12		73	39	18		4.3		103	43		258	6.7	16
Sept. 27.....	3.5							A9.0		101	29	12		2.1		112	29		265	7.7	
1-4728. EAST BRANCH PERKIOMEN CREEK NEAR HARLEYSVILLE, PA. (lat 40°16'25", long 75°24'55")																					
Apr. 25, 1967..	18.7							A29		79	70	32		4.9		123	59		374	7.6	14
Sept. 27.....	2.7							A51		141	85	56		1.7		174	59		559	7.4	3
1-4739.5. WISSAHICKON CREEK AT BELLS MILL ROAD, PHILADELPHIA, PA. (lat 40°04'50", long 75°13'35")																					
Oct. 13, 1966..								A37		141	70	40		20		180	65		519	6.8	3
Jan. 11, 1967..								A30		88	62	30		18		128	56		385	6.8	2
Feb. 16.....								A17		53	40	26		7.9		92	49		275	6.7	2
Mar. 7.....								A7.6		26	22	7.5		4.6		42	21		116	7.0	25
Aug. 29.....								A19		121	43	23		10		143	44		361	7.0	12
1-4739.8. WISSAHICKON CREEK AT LIVEZEY LANE, PHILADELPHIA, PA. (lat 40°02'59", long 75°12'52")																					
Jan. 11, 1967..								A23		77	57	32		16		130	67		370	7.7	2
Feb. 16.....								A23		53	46	35		9.6		98	55		316	6.7	2
Aug. 29.....								A18		98	42	22		9.1		123	43		323	7.1	13
1-4740. WISSAHICKON CREEK AT MOUTH, PHILADELPHIA, PA. (lat 40°00'54", long 75°12'24")																					
Jan. 11, 1967..								A27		72	65	34		14		128	69		372	6.8	2
Feb. 16.....								A26		56	43	44		9.8		104	58		351	6.8	2
Mar. 7.....								A8.0		24	23	8.0		8.1		44	25		128	6.4	15
Aug. 29.....								A17		88	41	22		8.4		116	44		310	7.0	15
1-4755.1. DARBY CREEK NEAR DARBY, PA. (lat 39°55'44", long 75°16'22")																					
Jan. 17, 1967..								A19		58	42	22		17		94	47		281	6.8	1
Aug. 30.....								A17		73	37	22		14		104	44		301	6.6	8
1-4755.4. COBBS CREEK BELOW INDIAN CREEK NEAR UPPER DARBY, PA. (lat 39°58'09", long 75°15'31")																					
Jan. 17, 1967..								A18		66	59	30		12		128	74		343	6.8	2
Aug. 30.....								A21		75	57	32		24		139	78		379	7.3	3
1-4755.5. COBBS CREEK AT DARBY, PA. (lat 39°55'02", long 75°14'22")																					
Jan. 17, 1967..								A22		83	64	30		11		138	70		379	6.7	2
Aug. 30.....								A19		104	59	24		7.8		146	61		369	6.9	7

A Calculated Na plus K, reported as Na.
E Daily mean discharge.

MISCELLANEOUS ANALYSES OF STREAMS IN NORTH ATLANTIC SLOPE BASINS--Continued

Chemical analyses, in parts per million, water year October 1966 to September 1967--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
DELAWARE RIVER BASIN--Continued																					
1-4806.52. EAST BRANCH BRANDYWINE CREEK TRIBUTARY NEAR CUPOLA, PA. (lat 40°06'30", long 75°49'33")																					
Mar. 7, 1967...		5.1		0.06	0.00	7.1	3.1	3.2	3.8	15	15	6.5	0.2	7.0	66	31	18		94	7.1	13
Mar. 29.....		11		.00	.00	11	4.0	5.8	2.8	25	20	8.0	.1	5.3	92	44	24		127	6.9	10
May 9.....		12		00	00	9.5	4.1	5.1	1.6	28	14	7.4	.1	4.6	85	42	18		109	6.9	10
Aug. 3.....		11		--	--	8.8	3.5	6.2	1.8	36	9.7	7.7	.2	3.8	81	37	7		110	6.9	10
1-4806.58. INDIAN RUN AT GLENMOORE, PA. (lat 40°04'41", long 75°46'19")																					
Mar. 7, 1967...		4.5		0.00	0.00	6.0	2.0	3.8	2.1	8	16	6.4	0.3	2.4	59	23	17		79	6.8	15
Mar. 29.....		14		.00	.00	10	3.0	8.0	1.4	28	16	11	.2	4.4	91	38	15		122	7.0	2
May 9.....		18		.00	.00	11	2.7	5.0	0.9	27	15	5.5	.2	2.5	86	39	17		102	7.2	9
July 13.....		25		.00	.00	11	2.8	6.2	0.9	48	6.9	4.5	.2	3.8	98	39	0		109	7.4	8
1-4806.62. CULBERTSON RUN AT LYNDELL, PA. (lat 40°03'29", long 75°45'07")																					
Mar. 7, 1967...		6.5		0.00	0.00	9.2	2.8	3.5	3.2	13	20	6.6	0.4	6.0	73	35	24		97	6.8	15
Mar. 31.....		12		.00	.00	13	4.5	7.0	2.1	24	27	10	.0	7.8	118	51	32		150	6.8	3
May 5.....		13		.01	.00	11	4.7	6.4	1.9	26	24	9.0	.0	7.6	97	47	26		144	7.3	4
July 13.....		17		.02	.01	13	4.3	6.8	2.5	32	23	10	.0	7.6	104	50	24		152	7.1	6
1-4806.65. EAST BRANCH BRANDYWINE CREEK AT DORLAN, PA. (lat 40°03'08", long 75°43'28")																					
Mar. 7, 1967...	E922	4.7		0.00	0.00	6.6	2.2	4.0	3.5	10	15	7.1	0.1	4.9	60	26	18		90	7.0	7
Mar. 29.....	E66	12		.00	.00	12	3.2	10	1.8	26	19	16	.2	3.6	116	43	22		143	6.7	5
Apr. 27.....	E170	12		.02	.00	10	2.8	6.8	2.0	21	22	8.5	.1	4.0	90	37	20		119	7.2	25
July 13.....	E20	18		.01	.00	11	3.8	7.5	2.1	44	14	8.0	.1	4.0	102	43	7		132	7.2	7
SUSQUEHANNA RIVER BASIN																					
1-5027.8. SNAKE CREEK NEAR MONTROSE, PA. (lat 41°55'00", long 75°50'45")																					
Apr. 25, 1967..	31.5							A4.4		19	15	5.5		0.8		30	15		83	6.5	15
1-5161. SATERLEE CREEK AT ATHENS, PA. (lat 41°57'47", long 76°30'31")																					
Apr. 14, 1967..	0.2							A7.6		24	21	8.0		0.6		37	18		113	6.6	10
1-5183. CROOKED CREEK AT LITTLE MARSH, PA. (lat 41°52'33", long 77°23'54")																					
Apr. 13, 1967..	13.8							A3.9		36	20	4.0		0.5		48	19		118	6.7	8
1-5307. SOUTH CREEK AT FASSETT, PA. (lat 41°59'20", long 76°46'25")																					
Apr. 13, 1967..	18.4							A6.0		27	21	9.0		2.0		45	23		126	6.7	10
1-5314.2. TOM JACK CREEK NEAR BOURNE, PA. (lat 41°49'00", long 76°37'50")																					
Apr. 14, 1967..								A8.7		50	22	9.0		0.6		58	17		157	6.8	5
1-5328. EAST BRANCH WYALUSING CREEK AT LAWTON, PA. (lat 41°47'15", long 76°04'15")																					
Apr. 14, 1967..	73.6							A3.9		24	15	6.5		1.8		37	18		103	6.5	4
1-5332. LITTLE TUSCARORA CREEK AT LACEYVILLE, PA. (lat 41°38'47", long 76°09'46")																					
Apr. 17, 1967..	2.4							A8.0		42	23	14		3.2		63	29		168	6.8	5

A Calculated Na plus K, reported as Na.
E Daily mean discharge.

MISCELLANEOUS ANALYSES OF STREAMS IN NORTH ATLANTIC SLOPE BASINS--Continued

Chemical analyses, in parts per million, water year October 1966 to September 1967--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
SUSQUEHANNA RIVER BASIN--Continued																					
1-5333. MESHOPPEN CREEK NEAR SPRINGVILLE, PA. (lat 41°41'50", long 75°53'10")																					
May 19, 1967...	67.8							2.5		20	17	4.5		1.3		36	20		85	6.8	3
1-5339. HOP BOTTOM CREEK AT BROOKLYN, PA. (lat 41°45'15", long 75°48'50")																					
Apr. 25, 1967..	20.4							5.1		24	16	9.0		0.9		38	19		105	6.8	7
1-5378.6. SUSQUEHANNA RIVER AT MOCANAQUA, PA. (lat 41°08'55", long 76°08'45")																					
Dec. 1, 1966...								--		42	49	12	--	--		88	--		225	6.8	--
Apr. 13, 1967L.								A6.4		40	36	6.5	0.2	2.7		68	35		172	7.2	6
Apr. 13M.....								A4.8		37	41	6.5	.1	2.3		74	44		182	6.8	2
Apr. 13N.....								A7.8		35	50	6.5	.2	3.6		76	48		198	6.4	6
July 23.....		3.1	0.1	0.02	0.00	35	14	9.0	2.1	54	108	12	.2	3.5	225	145	101		349	6.7	6
1-5384. SUSQUEHANNA RIVER AT BERWICK, PA. (lat 41°03'15", long 76°10'50")																					
Nov. 30, 1966..								---		55	63	13	--	--		114	--		280	6.8	--
Apr. 9, 1967L..								A4.8		36	31	5.5	0.2	2.5		62	33		150	6.5	4
Apr. 9N.....								A4.6		32	35	5.5	.1	.1		61	35		155	6.4	4
July 23.....		3.6	0.1	0.01	0.00	35	14	8.7	2.1	54	106	12	.2	1.9	219	145	101		348	7.0	6
1-5403. TOMHICKON CREEK NEAR ZION GROVE, PA. (lat 40°54'45", long 76°11'47")																					
Apr. 17, 1967..	33.0							A11		1	54	3.5		0.2		38	37		144	4.6	2
1-5408. WILSON RUN AT NEWBERG, PA. (lat 40°50'05", long 78°40'40")																					
Apr. 20, 1967..	20.2							A11		12	168	4.0		1.1		168	158		367	6.3	5
1-5413. MONTGOMERY CREEK AT HYDE, PA. (lat 41°00'14", long 78°27'43")																					
Apr. 20, 1967..	31.8							A7.8		4	50	5.5		0.4		47	44		134	5.8	3
1-5414. LITTLE CLEARFIELD CREEK AT KERRMOOR, PA. (40°53'30", long 78°34'50")																					
Apr. 20, 1967..	23.4							A7.4		33	71	3.5		1.3		91	64		211	6.7	11
1-5427.8. MIX RUN NEAR DRIFTWOOD, PA. (lat 41°20'10", long 78°11'53")																					
Apr. 13, 1967..	77.3							A2.3		12	12	0.5		0.2		18	8		51	6.6	3
1-5429. COWLEY RUN AT SIZERVILLE, PA. (lat 41°32'25", long 78°11'55")																					
Apr. 13, 1967..	58.8							A3.2		14	11	3.0		0.2		20	9		56	6.5	3
1-5436.8. EAST FORK SINNEMAHONING CREEK NEAR LOGUE, PA. (lat 41°33'54", long 77°56'03")																					
Apr. 12, 1967..	93.7							A2.8		14	10	1.0		0.5		18	7		49	6.6	3
Sept. 27.....	3.5							A3.0		23	8.6	2.0		.6		25	6		63	6.9	3

A Calculated Na plus K, reported as Na.
L Samples collected at left side.
M Samples collected at center.
N Samples collected at right side.

MISCELLANEOUS ANALYSES OF STREAMS IN NORTH ATLANTIC SLOPE BASINS--Continued

Chemical analyses, in parts per million, water year October 1966 to September 1967--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
SUSQUEHANNA RIVER BASIN--Continued																					
1-5456. YOUNG WOMANS CREEK NEAR RENOVO, PA. (lat 41°23'22", long 77°41'28") (Hydrologic bench-mark station)																					
Jan. 13, 1967..	E17	3.3		0.00	0.00	4.0	1.0	1.5	0.6	9	8.6	1.0	0.0	0.4	27	14	7		37	6.4	2
July 25.....	E11	4.4		--	--	5.0	1.1	1.0	1.0	15	7.3	1.4	.0	.0	33	17	5		43	7.0	3
Aug. 4.....	E11	4.2		.16	.00	6.0	1.1	1.2	0.9	15	8.0	1.7	.0	.4	32	20	7		45	6.7	3
Sept. 21.....	E2.8	4.5		--	--	5.5	1.1	1.1	1.1	17	7.3	2.3	.0	.0	35	18	4		48	7.1	2
1-5457. QUEENS RUN NEAR LOCK HAVEN, PA. (lat 41°10'35", long 77°28'50")																					
Apr. 21, 1967..	28.8							A2.8		12	14	1.0		0.2		20	10		50	6.5	2
Sept. 26.....	5.4							A2.5		22	13	2.0		.2		29	11		72	6.6	3
1-5477. MARSH CREEK AT BLANCHARD, PA. (41°03'35", long 77°36'15")																					
Mar. 13, 1967..	E340							A3.0		13	17	1.5		2.0		25	15		73	6.8	3
Mar. 15.....	E607							A1.4		12	17	1.5		3.3		29	19		77	6.4	3
Mar. 16.....	E552							A3.2		12	16	1.5		2.9		24	14		68	6.7	2
Aug. 28.....	E367					7.5	2.0	A3.4		16	17	1.5		1.8		27	14		70	7.2	2
Sept. 29.....	E229							A3.2		21	17	2.0		2.1		32	15		84	6.6	3
1-5479. BIG RUN AT ORVISTON, PA. (lat 41°06'55", long 77°44'15")																					
Apr. 21, 1967..	59.7							A2.1		6	30	0.5		0.2		32	27		76	6.0	3
Sept. 27.....	7.0							A18		2	50	1.0		.1		16	15		131	5.3	6
1-5480. NORTH BALD EAGLE CREEK AT BEECH CREEK STATION, PA. (lat 41°03'55", long 77°34'00")																					
Mar. 13, 1967..	E4560							A4.1		46	25	4.5		4.0		64	27		146	7.1	2
Mar. 15.....	E5870							A3.2		46	25	3.5		4.3		65	28		149	6.9	2
Mar. 16.....	E6320							A3.2		43	24	3.5		3.6		61	26		142	7.0	2
1-5480.1. NORTH BALD EAGLE CREEK AT MILL HALL, PA. (lat 41°06'45", long 77°30'05")																					
Aug. 28, 1967..						22	5.5	A2.8		48	36	3.0		3.0		78	38		172	6.7	10
Sept. 29.....								A4.8		40	28	2.0		4.2		58	25		140	6.5	5
1-5480.5. LITTLE FISHING CREEK NEAR HUBLERSBURG, PA. (lat 40°59'40", long 77°33'55")																					
Apr. 21, 1967..	19.4							A1.2		83	14	2.5		3.1		86	18		174	7.5	4
Sept. 27.....	3.5							A4.6		150	16	3.0		5.5		138	15		277	7.5	7
1-5480.8. FISHING CREEK AT MILL HALL, PA. (lat 41°06'35", long 77°29'10")																					
Mar. 13, 1967..	--							A2.8		52	16	3.0		3.6		60	18		132	6.9	2
Mar. 15.....	--							A2.3		50	16	2.5		4.0		59	18		130	6.9	2
Mar. 16.....	--							A2.1		46	16	2.5		2.6		55	18		122	6.9	2
Apr. 20.....	294							A1.6		89	15	2.5		3.1		91	18		185	7.2	3
Aug. 28.....	--					32	8.5	A3.9		117	17	4.0		5.4		115	19		248	7.4	2
Sept. 26.....	80.8							A2.8		149	18	4.0		1.2		141	19		277	7.9	4
Sept. 29.....	--							A4.1		122	17	3.5		5.6		118	18		251	7.2	3
1-5484. BABB CREEK AT MORRIS, PA. (lat 41°35'50", long 77°17'25")																					
Apr. 20, 1967..	72.5							A3.0		3	28	1.5		0.0		27	25		80	5.4	3

A Calculated Na plus K, reported as Na.
E Daily mean discharge.

MISCELLANEOUS ANALYSES OF STREAMS IN NORTH ATLANTIC SLOPE BASINS--Continued

Chemical analyses, in parts per million, water year October 1966 to September 1967--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
SUSQUEHANNA RIVER BASIN--Continued																					
1-5488. TROUT RUN AT CAMMAL, PA. (lat 41°24'00", long 77°27'40")																					
Apr. 20, 1967..	23.1							A3.0		10	6.5	1.0		0.0		10	2		31	6.4	3
Sept. 26.....	.6							A6.0		20	6.1	1.5		.0		12	0		48	7.2	4
1-5497.4. PINE CREEK NEAR JERSEY SHORE, PA. (lat 41°11'50", long 77°17'30")																					
June 2, 1967P..		1.5		0.03	0.01	7.6	1.7	1.8	0.8	14	15	3.0	0.1	0.4	Q50	26	15		67	6.6	4
June 2R.....		3.6	1.5	.02	1.2	19	8.3	2.8	1.3	0	98	3.4	.1	0.8	S154	82	82	0.4	253	4.1	2
1-5497.5. ANTES CREEK AT RAUCHTOWN, PA. (lat 41°07'20", long 77°14'00")																					
Apr. 20, 1967..	21.2							A5.5		12	6.7	1.5		0.0		13	3		38	6.4	2
June 2.....	--	3.1		0.14	65	21	6.9	2.6	1.1	27	60	3.8	0.1	1.7	T129	81	59		186	7.3	5
Sept. 26.....	3.6							A1.6		16	5.5	1.5		.0		17	4		47	6.5	2
1-5499. MILL CREEK AT ROARING BRANCH, PA. (lat 41°35'55", long 76°57'10")																					
Apr. 20, 1967..	16.5							A0.7		15	13	5.0		0.6		27	15		75	6.4	4
1-5518.5. LITTLE LOYALSOCK CREEK NEAR DUSHORE, PA. (lat 41°30'25", long 76°27'50")																					
Apr. 19, 1967..	22.0							A13		42	18	13		0.0		43	9		147	6.6	5
1-5519. ELK CREEK NEAR ESTELLA, PA. (lat 41°31'00", long 76°39'45")																					
Apr. 19, 1967..	21.3							A1.8		11	11	3.0		0.4		21	12		57	6.4	4
1-5530. LITTLE MUNCY CREEK AT LAIRDSVILLE, PA. (lat 41°13'50", long 76°36'35")																					
Apr. 19, 1967..	55.9							A5.5		21	12	5.0		0.6		25	8		78	6.5	2
Sept. 25.....	13.1							A6.0		27	10	5.5		1.8		29	7		88	6.8	6
1-5535. WEST BRANCH SUSQUEHANNA RIVER AT LEWISBURG, PA. (lat 40°58'05", long 76°52'25")																					
Nov. 8, 1966...	E1910	5.1	--	0.00	0.18	31	10	7.0	2.0	23	102	9.5	0.2	3.3	200	119	100		290	6.6	2
Dec. 21.....	E8280	4.4	0.0	.00	.81	15	5.2	2.8	1.1	6	55	5.0	.0	2.1	114	59	54		154	5.7	2
Jan. 31, 1967..	E13300	6.5	--	.00	.00	15	5.0	3.2	1.0	6	52	4.5	.0	5.1	99	58	53		147	6.4	2
Mar. 14.....	E42600	3.6	.0	1.3	.00	13	4.8	2.8	1.6	13	44	5.6	.0	1.7	102	52	42		137	5.5	--
Apr. 27.....	E14900	10	.8	.00	.00	15	5.2	3.8	1.2	24	45	4.6	.1	2.1	114	59	40		150	6.4	--
June 8.....	E5410	--	--	--	--	--	--	A7.1	--	32	55	5.5	--	1.4	--	77	51		188	7.0	3
July 19.....	E3640	7.6	--	.02	.01	21	7.5	4.5	1.3	27	60	5.5	.0	2.2	129	84	62		200	6.8	6
Aug. 31.....	E8110	16	--	.00	.01	25	8.3	5.0	1.5	25	76	5.0	.0	.8	159	97	76		225	7.1	4
1-5538. MUD CREEK AT WASHINGTONVILLE, PA. (lat 41°02'55", long 76°40'30")																					
Apr. 19, 1967..	12.9							A6.2		47	27	10		6.3		72	34		182	6.8	10
Sept. 25.....	1.8							A12		88	28	14		4.2		99	27		243	7.2	3
1-5540. SUSQUEHANNA RIVER AT SUNBURY, PA. (lat 40°50'05", long 76°49'35")																					
July 6, 1967...	E14200	2.4		0.00	0.00	33	12	10	1.9	48	95	14	0.2	1.7	206	132	93		337	7.7	5

A Calculated Na plus K, reported as Na.
E Daily mean discharge.
P Samples collected at 0855 hours.
Q Includes 0.00 ppm of copper (Cu); 0.11 ppm of zinc (Zn).
R Sample collected at 0945 hours.
S Includes 0.08 ppm of copper (Cu); 0.02 ppm of zinc (Zn).
T Includes 0.00 ppm of copper; 0.04 ppm of zinc (Zn).

MISCELLANEOUS ANALYSES OF STREAMS IN NORTH ATLANTIC SLOPE BASINS--Continued

Chemical analyses, in parts per million, water year October 1966 to September 1967--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
SUSQUEHANNA RIVER BASIN--Continued																					
1-5550. PENNS CREEK AT PENNS CREEK, PA. (lat 40°52'00", long 77°02'55")																					
Nov. 9, 1966...	E58	--		--	--	--	--	A8.7	--	122	18	5.0	--	1.7	--	108	8		229	7.4	1
Dec. 22.....	E297	5.1		0.00	0.00	29	3.8	2.7	1.2	84	17	3.5	0.0	3.8	111	88	19		180	6.6	2
Feb. 1, 1967...	E409	8.7		.00	.00	24	3.6	2.9	1.1	74	16	4.3	.0	2.7	106	75	15		160	7.7	1
Mar. 16.....	E2670	6.2		.04	.00	19	2.5	2.6	1.7	50	16	3.4	.0	5.0	92	58	17		132	7.0	6
Apr. 28.....	E792	8.7		.00	.00	20	2.8	2.0	1.0	58	13	3.1	.2	2.1	89	62	14		128	7.1	5
June 8.....	E279	--		--	--	--	--	A.9	--	72	7.6	4.0	--	.8	--	71	12		145	7.4	2
July 18.....	E195	13		.01	.00	28	4.6	3.2	1.2	90	15	3.0	.0	2.6	121	89	15		179	6.8	4
Aug. 30.....	E213	6.9		.00	.00	27	4.4	2.7	1.1	90	14	3.5	.0	.0	113	86	12		176	7.4	4
1-5552. MIDDLE CREEK NEAR BEAVERTOWN, PA. (lat 40°46'40", long 77°07'05")																					
Nov. 1, 1966...	11.6							A6.4		124	30	3.5		0.4		124	23		246	8.0	2
Apr. 21, 1967..	110							A4.1		54	15	2.5		1.7		56	12		130	6.7	6
1-5553. WEST BRANCH MAHANTANGO CREEK AT ORIENTAL, PA. (lat 40°38'20", long 77°00'10")																					
Nov. 1, 1966...	4.8							A8.5		103	33	4.5		1.3		108	24		225	7.2	1
May 1, 1967....	53.0							A3.4		26	13	2.0		1.9		32	11		80	6.7	7
1-5557. ARMSTRONG CREEK AT HALIFAX, PA. (lat 40°28'12", long 76°55'27")																					
Nov. 1, 1966...	0.7							A7.8		38	14	6.0		0.2		37	6		107	6.8	8
May 1, 1967....	43.3							A3.9		10	11	3.0		1.5		16	8		57	6.4	3
1-5558.5. SUGAR RUN AT ALTOONA, PA. (lat 40°27'28", long 78°25'40")																					
Apr. 20, 1967..	19.1							A9.9		0	103	7.0		0.8		96	96		265	4.5	3
1-5558.8. CANOE CREEK AT PROPOSED DAMSITE IN BLAIR COUNTY, PA. (lat 40°28'35", long 78°16'55")																					
Apr. 19, 1967..								A2.8		48	23	0.5		0.1		58	19		127	6.6	6
1-5592. LAUREL RUN AT McALEVYS FORT, PA. (lat 40°38'55", long 77°50'45")																					
Nov. 2, 1966...	1.6							A3.0		40	9.5	0.5		0.0		37	4		81	6.7	2
Apr. 21, 1967..	21.4							A4.4		23	10	1.5		.0		22	3		60	6.8	7
1-5597.5. RAYSTOWN BRANCH JUNIATA RIVER NEAR MANNS CHOICE, PA. (lat 40°01'02", long 78°37'07")																					
June 26, 1967..		3.1	0.1			12	3.5	7.0	1.5	32	15	14	0.1	1.1	88	45	19		130	7.5	4
1-5598. BOBS CREEK AT WEYANT, PA. (lat 40°12'50", long 78°33'25")																					
Apr. 19, 1967..	58.3							A1.4		14	11	2.0		1.2		24	13		63	6.4	6
1-5608. COVE CREEK NEAR RAINSBURG, PA. (lat 39°55'00", long 78°30'40")																					
Apr. 19, 1967..	17.1							A2.1		63	13	2.0		4.5		67	16		142	6.8	8

A Calculated Na plus K, reported as Na.
E Daily mean discharge.

MISCELLANEOUS ANALYSES OF STREAMS IN NORTH ATLANTIC SLOPE BASINS--Continued

Chemical analyses, in parts per million, water year October 1966 to September 1967--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
SUSQUEHANNA RIVER BASIN--Continued																					
1-5630. RAYSTOWN BRANCH JUNIATA RIVER NEAR HUNTINGDON, PA. (lat 40°25'35", long 78°01'50")																					
Oct. 20, 1966..	E112	9.8		0.42	0.00	36	15	7.0	2.3	90	74	9.0	0.1	1.5	207	152	78		324	7.3	3
Nov. 29.....	E793	5.8		.00	.00	35	14	5.0	2.5	100	66	9.0	.2	1.4	213	145	63		314	6.9	4
Jan. 12, 1967..	E238	4.7		.00	.00	26	7.0	2.8	1.8	56	43	8.5	.0	4.5	148	94	48		215	6.5	2
Feb. 21.....	E641	5.6		.00	.00	19	5.2	4.4	1.4	40	32	8.5	.1	2.8	113	69	36		170	7.3	2
May 17.....	E2770	7.3		.00	.00	17	4.5	1.5	1.4	34	27	3.0	.2	3.6	97	61	33		137	7.0	4
July 12.....	E263	--		--	--			A2.3	--	86	50	7.0	--	3.4	--	130	60		261	7.3	3
Aug. 15.....	E312	7.5		.02	.00	23	7.4	3.9	2.0	53	45	5.5	.6	1.7	122	88	45		203	7.5	3
Sept. 20.....	E129	2.0		.00	.01	38	13	4.3	2.3	74	60	28	.2	2.5	203	149	88		345	7.0	2
1-5648. MESSER RUN AT McVEYTOWN, PA. (lat 40°29'40", long 77°34'30")																					
Nov. 2, 1966...	1.2							A2.5		182	27	2.5		1.2		176	27		337	8.1	3
Apr. 21, 1967..	6.4							A6.2		128	25	5.5		3.2		128	23		261	7.5	13
1-5658. LOST CREEK NEAR MIFFLINTOWN, PA. (lat 40°35'25", long 77°24'25")																					
Nov. 1, 1966...	4.6							A4.8		129	22	4.0		0.5		124	19		247	7.5	2
May 2, 1967....	62.0							A2.3		44	12	2.0		.8		47	11		103	6.6	3
1-5659. NARROWS BRANCH TUSCARORA CREEK AT CONCORD, PA. (lat 40°14'54", long 77°42'20")																					
Apr. 19, 1967..	20.8							A2.5		53	13	2.0		2.1		56	13		120	6.7	8
1-5664. RACCOON CREEK AT DONNALLY MILLS, PA. (lat 40°31'00", long 77°14'13")																					
Nov. 2, 1966...	2.2							A5.8		114	13	2.5		0.2		98	5		203	7.5	2
May 2, 1967....	22.3							A3.2		34	11	1.0		1.1		35	7		81	6.8	4
1-5671. LITTLE BUFFALO CREEK NEAR NEW BLOOMFIELD, PA. (lat 40°27'15", long 77°10'18")																					
May 2, 1967....								A2.8		47	13	2.5		2.1		51	13		112	6.7	3
1-5694. DOUBLING GAP CREEK AT McCREA, PA. (lat 40°14'17", long 77°26'43")																					
Apr. 17, 1967..	9.6							A0.7		13	9.2	1.0		0.1		20	10		52	6.4	4
1-5713. DOGWOOD RUN NEAR DILLSBURG, PA. (lat 40°08'50", long 77°01'50")																					
Apr. 19, 1967..	9.7							A4.8		102	18	10		4.1		109	26		235	6.8	6
1-5737. CONEWAGO CREEK AT BELLAIRE, PA. (lat 40°11'40", long 76°34'40")																					
Apr. 14, 1967..	10.8							A7.8		54	22	7.5		1.5		62	18		160	6.8	7
Sept. 26.....	4.1							A8.5		66	14	5.0		2.4		59	5		152	7.0	3
1-5738.5. BERMUDIAN CREEK NEAR YORK SPRINGS, PA. (lat 39°58'30", long 77°07'48")																					
Apr. 19, 1967..	13.8							A6.9		49	20	7.5		5.7		61	21		156	6.6	6
Sept. 25.....	1.7							A7.4		90	11	7.0		3.3		82	8		192	7.1	4
1-5739.5. BEAVER CREEK NEAR LEWISBERRY, PA. (lat 40°05'20", long 76°52'15")																					
Sept. 25, 1967.								A9.2		106	18	5.5		0.5		94	7		207	7.3	4

A Calculated Na plus K, reported as Na.
E Daily mean discharge.

MISCELLANEOUS ANALYSES OF STREAMS IN NORTH ATLANTIC SLOPE BASINS--Continued

Chemical analyses, in parts per million, water year October 1966 to September 1967--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
SUSQUEHANNA RIVER BASIN--Continued																					
1-5755. CODORUS CREEK NEAR YORK, PA. (lat 39°56'45", long 76°45'20")																					
July 21, 1967..	E39	2.9		0.00	0.00	14	4.1	6.0	2.0	49	9.4	8.5	0.1	6.3	86	52	12		141	7.4	2
1-5762. LITTLE MUDDY CREEK NEAR REAMSTOWN, PA. (lat 40°11'05", long 76°04'40")																					
Apr. 14, 1967..	12.2							A20		68	52	10		5.9		86	31		260	6.7	8
Sept. 26.....	1.2					26	7.0	A32		109	54	12		1.5		94	5		332	7.0	4
1-5768. OTTER CREEK NEAR NEW BRIDGEVILLE, PA. (lat 39°54'56", long 76°28'40")																					
Apr. 17, 1967..	5.7							A2.8		14	6.5	6.5		9.3		29	18		84	6.3	6
Sept. 25.....	1.3							A3.0		30	4.5	7.5		9.9		41	17		79	6.9	4
POTOMAC RIVER BASIN																					
1-6140.9. CONOCOCHEAGUE CREEK NEAR FAYETTEVILLE, PA. (lat 39°55'50", long 77°26'20")																					
Sept. 25, 1967.								A3.0		2	4.0	2.0		0.2		2	1		15	6.2	1
1-6141. BIRCH RUN NEAR FAYETTEVILLE, PA. (lat 39°55'46", long 77°26'28")																					
Apr. 19, 1967..	13.0							A3.4		5	8.0	1.5		0.0		7	3		27	6.1	8

E Daily mean discharge.

Periodic determinations of suspended-sediment discharge and particle-size, water year October 1966 to September 1967
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
DELAWARE RIVER BASIN																		
1-4510. LEHIGH RIVER AT WALNUTPORT, PA.																		
Mar. 8, 1967	1730	36		2750	30	223												
Apr. 25	1210	47		1460	11	43												
June 1	1010	59		1230	6	20												
July 12	0955	71		759	19	39												
Aug. 17	1510	--		969	6	16												
1-4515. LITTLE LEHIGH CREEK NEAR ALLENTOWN, PA.																		
Jan. 5, 1967	1530	44		33	3	0.3												
Mar. 6	1115	43		110	205	61												
Mar. 8	1240	40		110	106	31												
Mar. 14	0805	45		64	6	1.0												
Apr. 11	1130	48		58	6	.9												
May 23	0750	52		70	6	1.1												
June 26	1445	66		50	16	2.2												
Aug. 18	0900	64		48	28	3.6												
Sept. 28	0145	--		40	6	.6												
1-4518. JORDAN CREEK NEAR SCHNECKSVILLE, PA.																		
Mar. 6, 1967	1145	37		820	4400	9740												
Mar. 8	1310	41		478	114	147												
Mar. 9	1050	41		321	72	62												
Apr. 26	0940	45		31	7	.6												
May 24	0710	--		49	5	.7												
May 26	1350	69		10	6	.2												
July 12	1445	84		19	5	.2												
Aug. 18	1010	75		22	2	.1												
Sept. 20	0840	62		9.4	1	T												
1-4520. JORDAN CREEK AT ALLENTOWN, PA.																		
Jan. 5, 1967	1335	34		87	2	0.5												
Mar. 3	1440	42		41	18	2.0												
Mar. 6	1045	38		248	200	134												
Mar. 8	1215	37		682	355	654												
Apr. 11	0905	47		87	5	1.2												
May 23	1305	61		85	5	1.1												
June 26	1205	67		13	5	.2												
Aug. 21	--	--		26	4	.3												
1-4657.7. POQUESSING CREEK AT TREVOSE ROAD, AT PHILADELPHIA, PA.																		
Jan. 18, 1967	1530	37		4.4	52	0.6												
Feb. 15	1000	39		13	58	2.0												
Mar. 22	0945	39		8.4	30	.7												
Apr. 27	1545	47		30	85	6.9												
May 4	0815	49		4.6	6	.1												
June 15	1450	69		2.6	5	T												
July 12	1300	74		4.8	11	.1												
Aug. 15	1355	64		8.8	32	.8												

T Less than 0.05 ton.

MISCELLANEOUS ANALYSES OF STREAMS IN NORTH ATLANTIC SLOPE BASINS--Continued

Periodic determinations of suspended-sediment discharge and particle-size, water year October 1966 to September 1967--Continued
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;
P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
DELAWARE RIVER BASIN--Continued																		
1-4657.8. POQUESSING CREEK ABOVE BYBERRY CREEK, PHILADELPHIA, PA.																		
Jan. 16, 1967.....	1600	39		10	6	0.2												
Feb. 14.....	1630	33		124	55	18												
Mar. 22.....	1140	39		27	52	3.8												
Apr. 27.....	1450	44		125	322	109												
May 2.....	1100	59		16	12	.5												
June 9.....	1540	77		5.1	14	.2												
July 12.....	1045	74		12	16	.5												
Aug. 22.....	1320	72		12	13	.4												
1-4657.85. WALTON RUN AT PHILADELPHIA, PA.																		
Oct. 12, 1966.....	0930	55		0.4	19	T												
Nov. 30.....	0900	--		.4	30	T												
Jan. 19, 1967.....	1120	32		.6	24	T												
Feb. 15.....	1220	43		3.9	128	1.3												
Mar. 20.....	0915	36		.9	16	T												
Apr. 27.....	1525	48		9.4	119	3.0												
May 2.....	1430	71		1.3	10	T												
May 7.....	1550	48		35	867	82												
June 12.....	0920	73		.9	20	T												
July 12.....	1125	79		2.2	527	3.1												
Aug. 24.....	1145	67		2.2	16	.1												
1-4657.9. BYBERRY CREEK AT CHALFONT ROAD AT PHILADELPHIA, PA.																		
Oct. 19, 1966.....	1430	57		247	882	588												
Oct. 19.....	1555	57		161	627	272												
Nov. 30.....	1130	--		2.0	5	T												
Jan. 19, 1967.....	0945	32		2.8	14	.1												
Feb. 15.....	1510	41		25	--	--												
Mar. 20.....	1055	34		3.2	51	.4												
Apr. 27.....	1510	46		22	142	8.4												
May 2.....	1250	62		4.1	48	.5												
May 7.....	1640	47		103	903	251												
June 12.....	0730	69		2.2	4	T												
July 5.....	1440	68		4.4	18	.2												
Aug. 23.....	1400	68		3.7	7	.1												
1-4657.98. POQUESSING CREEK AT GRANT AVENUE AT PHILADELPHIA, PA.																		
Oct. 11, 1966.....	1040	50		4.7	2	T												
Nov. 11.....	1515	--		10	11	0.3												
Jan. 12, 1967.....	1600	35		15	7	.3												
Feb. 14.....	1450	33		22	32	1.9												
Mar. 20.....	1550	39		24	12	.8												
Apr. 22.....	1430	44		225	318	193												
May 2.....	0945	50		26	8	.6												
June 9.....	1435	76		9.3	9	.2												
July 7.....	1415	67		9.3	6	.2												
Aug. 24.....	0955	65		13	2	.1												

T Less than 0.05 ton.

Periodic determinations of suspended-sediment discharge and particle-size, water year October 1966 to September 1967--Continued
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
DELAWARE RIVER BASIN--Continued																		
1-4670.42. PENNYPACK CREEK AT PINE ROAD, PHILADELPHIA, PA.																		
Oct. 2, 1966	1130	53		45	66	8.0												
Oct. 18	1200	53		73	5	1.0												
Dec. 1	1030	43		26	14	1.0												
Jan. 12, 1967	0910	35		59	15	2.4												
Mar. 21	1240	39		78	20	4.2												
Apr. 27	1715	46		208	97	54												
May 3	0845	56		220	13	7.7												
June 13	1300	76		21	28	1.6												
July 5	1230	68		28	40	3.0												
July 11	1335	71		116	103	32												
Sept. 28	1515	67		238	15	9.6												
1-4670.45. PENNYPACK CREEK BELOW VERREE ROAD AT PHILADELPHIA, PA.																		
Oct. 18, 1966	1335	53		18	6	0.3												
Dec. 1	1400	--		23	12	.7												
Jan. 12, 1967	1100	35		59	12	1.9												
Mar. 21	1040	39		81	14	3.1												
Apr. 27	1200	47		250	102	69												
May 3	1100	58		80	12	2.6												
June 13	1035	73		26	43	3.0												
July 5	1335	--		30	35	2.8												
Aug. 23	1435	68		41	5	.6												
Sept. 29	1335	57		300	397	322												
1-4670.48. PENNYPACK CREEK AT LOWER RHAWN STREET BRIDGE AT PHILADELPHIA, PA.																		
Oct. 12, 1966	1535	58		22	8	0.5												
Dec. 2	1515	--		26	16	1.1												
Jan. 12, 1967	1230	35		56	6	.9												
Feb. 20	1040	35		49	27	3.6												
Mar. 21	1515	39		123	59	20												
Apr. 27	1625	47		289	111	87												
May 3	1400	62		81	24	5.2												
May 7	1620	49		702	978	1850												
June 13	0830	76		30	13	1.0												
July 3	1230	71		161	318	138												
Aug. 23	1225	69		46	87	11												
Sept. 29	1055	67		570	430	662												
1-4670.49. WOODEN BRIDGE RUN AT PHILADELPHIA, PA.																		
Oct. 12, 1966	1415	59		0.4	1	T												
Oct. 19	1235	53		178	351	169												
Dec. 3	1130	34		.6	24	T												
Jan. 12, 1967	1420	--		1.7	7	T												
Mar. 23	1510	42		6.6	27	.5												
Apr. 27	1355	44		32	76	6.6												
May 3	1450	64		1.7	8	T												
June 12	1245	75		.8	15	T												
July 3	1430	76		2.9	10	.1												
Aug. 22	1150	71		1.8	12	.1												
Sept. 29	0930	--		26	120	8.4												

T Less than 0.05 ton.

MISCELLANEOUS ANALYSES OF STREAMS IN NORTH ATLANTIC SLOPE BASINS--Continued

Periodic determinations of suspended-sediment discharge and particle-size, water year October 1966 to September 1967--Continued
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
DELAWARE RIVER BASIN--Continued																		
1-4670.84. TACONY CREEK AT COUNTY LINE, PHILADELPHIA, PA.																		
Oct. 18, 1966.....	0950	50		5.8	7	0.1												
Jan. 19, 1967.....	1415	--		21	9	.5												
Mar. 27.....	0900	39		29	11	.9												
May 8.....	1530	56		29	3	.2												
June 12.....	1445	81		9.9	11	.3												
July 14.....	1000	70		22	7	.4												
Aug. 25.....	1115	64		52	37	5.2												
Sept. 28.....	1315	65		14	79	3.0												
1-4670.88. FRANKFORD CREEK AT TORRESDALE AVENUE, PHILADELPHIA, PA.																		
Oct. 11, 1966.....	0945	58		12	4	0.1												
Oct. 19.....	1140	53		1270	114	391												
Jan. 16, 1967.....	1300	40		21	5	.3												
Feb. 14.....	1250	34		27	39	2.8												
Mar. 23.....	1110	40		373	32	32												
Apr. 17.....	1520	48		232	88	55												
May 7.....	1455	48		970	651	1700												
May 8.....	0820	48		40	29	3.1												
June 9.....	1330	77		19	22	1.1												
July 7.....	1040	73		16	20	.9												
Aug. 28.....	1505	74		78	25	5.3												
1-4721.74. PICKERING CREEK NEAR CHESTER SPRINGS, PA.																		
Jan. 20, 1967.....	1440	37		6.0	7	0.1												
Feb. 19.....	1000	32		10	38	1.0												
Mar. 24.....	1100	47		11	16	.5												
Apr. 6.....	1400	54		7.9	10	.2												
Apr. 24.....	1000	46		10	19	.5												
Apr. 27.....	0830	--		28	275	21												
Apr. 27.....	1330	45		33	154	14												
May 7.....	1230	48		50	786	106												
May 7.....	1845	48		48	203	26												
Aug. 10.....	0800	68		33	113	10												
Aug. 10.....	0930	71		24	86	5.6												
1-4721.76. PICKERING CREEK TRIBUTARY AT CHESTER SPRINGS, PA.																		
Feb. 2, 1967.....	1000	45		7.5	6	0.1												
Feb. 28.....	1530	37		5.9	3	T												
Apr. 5.....	0830	51		5.4	7	.1												
Apr. 24.....	1030	46		6.1	15	.2												
May 7.....	1245	48		31	284	24												

T Less than 0.05 ton.

Periodic determinations of suspended-sediment discharge and particle-size, water year October 1966 to September 1967--Continued
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
DELAWARE RIVER BASIN--Continued																		
1-4721.83. PINE CREEK AT CHESTER SPRINGS, PA.																		
Mar. 6, 1967	1030	38		31	87	7.3												
Mar. 16	1220	--		10	2	.1												
Mar. 24	1700	48		18	22	1.1												
Mar. 29	0815	45		23	25	1.6												
Apr. 6	1100	50		7.2	5	.1												
Apr. 24	1030	46		9.8	10	.3												
Apr. 27	0815	46		39	81	8.5												
May 7	1300	48		90	433	105												
1-4721.85. PICKERING CREEK TRIBUTARY NEAR KIMBERTON, PA.																		
Jan. 20, 1967	1640	37		1.2	8	T												
Feb. 28	1030	36		1.4	6	T												
Mar. 16	1715	44		4.1	8	0.1												
May 7	1700	47		14	73	2.8												
1-4721.86. PIGEON RUN AT MERLIN, PA.																		
Jan. 23, 1967	1520	45		7.8	13	0.3												
Feb. 20	1100	36		4.0	1	T												
Mar. 24	1810	46		9.1	7	.2												
Mar. 28	0800	45		12	21	.7												
Apr. 24	1040	46		6.8	7	.1												
Apr. 27	0800	44		17	48	2.2												
Apr. 27	1330	45		19	41	2.1												
May 7	1300	48		35	443	42												
1-4721.89. ROCK RUN AT CHARLESTOWN, PA.																		
Jan. 25, 1967	1300	50		4.2	5	0.1												
Jan. 25	1445	50		4.2	5	.1												
Feb. 19	1400	38		3.8	8	.1												
Mar. 16	1400	45		5.5	23	.3												
Mar. 16	--	45		5.5	13	.2												
Apr. 10	1030	55		2.8	9	.1												
May 7	1315	47		33	828	74												
Aug. 3	1800	72		31	616	52												
Aug. 27	1415	71		36	1890	184												
Aug. 27	1515	70		48	1720	223												
Aug. 27	1600	71		36	578	56												
Aug. 27	1635	70		22	319	19												
1-4721.9. PICKERING CREEK NEAR PHOENIXVILLE, PA.																		
Jan. 23, 1967	1220	41		34	1	0.1												
Jan. 23	1415	41		36	1	.1												
Feb. 2	1430	46		38	4	.4												
Mar. 8	0830	36		84	24	5.4												
Mar. 8	0900	34		84	24	5.4												
Mar. 8	1030	--		84	38	8.6												

T Less than 0.05 ton.

MISCELLANEOUS ANALYSES OF STREAMS IN NORTH ATLANTIC SLOPE BASINS--Continued

Periodic determinations of suspended-sediment discharge and particle-size, water year October 1966 to September 1967--Continued
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
DELAWARE RIVER BASIN--Continued																		
1-4721.9. PICKERING CREEK NEAR PHOENIXVILLE, PA.--Continued																		
Apr. 6, 1967.....	0930	50		61	12	2.0												
Apr. 24.....	1100	46		35	4	.4												
Apr. 27.....	1400	46		152	68	28												
May 7.....	1330	47		131	349	123												
May 7.....	1530	47		292	286	225												
May 7.....	1815	47		325	258	226												
May 8.....	0700	47		90	31	7.5												
Aug. 10.....	1000	71		165	87	39												
Aug. 10.....	1200	71		145	111	43												
Aug. 27.....	1700	70		122	122	40												
1-4721.95. INDIAN CREEK NEAR ZIONSVILLE, PA.																		
Mar. 6, 1967.....	1245	35		40	220	24	30	46	63	81	93	99	99	100				SCBW
Mar. 8.....	1100	38		14	14	.5												
Apr. 18.....	1225	49		4.7	2	T												
June 28.....	0725	61		2.9	10	.1												
1-4739.5. WISSAHICKON CREEK AT BELLS MILL ROAD, PHILADELPHIA, PA.																		
Oct. 13, 1966.....	1200	56		22	9	0.5												
Nov. 7.....	1150	46		33	10	.9												
Jan. 11, 1967.....	1130	32		85	14	3.2												
Feb. 16.....	1610	39		272	169	124												
Feb. 21.....	1055	39		88	105	25												
Mar. 7.....	1230	--		4060	1330	14600												
May 5.....	0825	56		48	11	1.4												
June 14.....	0825	70		35	14	1.3												
July 13.....	1420	76		31	24	2.0												
Aug. 29.....	1010	68		63	--	--												
1-4739.8. WISSAHICKON CREEK AT LIVEZEY LANE, PHILADELPHIA, PA.																		
Oct. 13, 1966.....	1330	56		19	9	0.5												
Nov. 7.....	1455	46		31	11	.9												
Jan. 11, 1967.....	1355	37		88	17	4.0												
Mar. 24.....	1145	--		114	18	5.5												
May 5.....	1015	62		54	6	.9												
June 14.....	1020	72		37	--	--												
July 13.....	1205	75		37	31	3.1												
Aug. 29.....	1220	73		72	31	6.0												
1-4740. WISSAHICKON CREEK AT MOUTH, PHILADELPHIA, PA.																		
Oct. 13, 1966.....	1510	55		27	5	0.4												
Dec. 5.....	0845	32		35	29	2.7												
Jan. 11, 1967.....	1525	--		98	13	3.4												
Feb. 16.....	1300	--		390	150	158												
Feb. 23.....	1030	37		88	39	9.3												
Mar. 7.....	1715	--		2680	1300	9410												

T Less than 0.05 ton.

Periodic determinations of suspended-sediment discharge and particle-size, water year October 1966 to September 1967--Continued
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
DELAWARE RIVER BASIN--Continued																		
1-4740. WISSAHICKON CREEK AT MOUTH, PHILADELPHIA, PA.--Continued																		
Mar. 23, 1967	1420	45		124	15	5.0												
May 5	1125	58		57	12	1.8												
June 14	1215	71		39	19	2.0												
July 13	1005	75		46	75	9.3												
Aug. 29	1430	72		75	42	8.5												
1-4755.1. DARBY CREEK NEAR DARBY, PA.																		
Oct. 10, 1966	1300	62		29	4	0.3												
Dec. 6	1430	33		51	36	5.0												
Feb. 24, 1967	1100	36		62	13	2.2												
Mar. 28	1400	47		73	13	2.6												
May 9	1300	55		92	30	7.4												
June 15	1005	66		34	11	1.0												
July 6	1010	66		32	14	1.2												
Aug. 30	0935	67		50	13	1.8												
1-4755.4. COBBS CREEK BELOW INDIAN CREEK NEAR UPPER DARBY, PA.																		
Oct. 10, 1966	1105	60		3.1	7	0.1												
Jan. 17, 1967	1500	42		6.8	1	T												
Feb. 23	1515	44		11	--	--												
Mar. 27	1250	50		10	7	.2												
May 9	1050	54		12	3	.1												
June 15	1120	66		7.3	5	.1												
July 6	1300	69		4.6	3	T												
Aug. 30	1145	70		8.9	66	1.6												
1-4755.5. COBBS CREEK AT DARBY, PA.																		
Oct. 10. 1966	1405	64		1.4	6	T												
Jan. 17, 1967	0955	35		4.9	4	0.1												
Feb. 24	1250	32		7.4	--	--												
Mar. 28	1150	47		9.0	8	.2												
May 9	1410	56		10	13	.4												
June 15	0840	--		2.9	4	T												
July 6	0905	68		4.2	3	T												
Aug. 30	0915	70		5.8	4	.1												
1-4806.52. EAST BRANCH BRANDYWINE CREEK TRIBUTARY NEAR CUPOLA, PA.																		
Jan. 27, 1967	1545	--		87	1970	463												
Jan. 27	1735	--		94	656	166												
Mar. 6	1435	--		38	279	29												
Mar. 7	1345	34		64	141	24												
Mar. 7	1815	36		29	63	4.9												
Mar. 8	1830	36		12	28	.9												
Mar. 15	1555	42		7.6	14	.3												
Mar. 22	1610	43		4.5	3	T												
Mar. 29	1015	45		9.5	19	.5												
Mar. 29	1605	52		6.0	7	.1												
Apr. 5	1615	54		2.9	3	T												
Apr. 12	1415	54		2.7	2	T												

T Less than 0.05 ton.

MISCELLANEOUS ANALYSES OF STREAMS IN NORTH ATLANTIC SLOPE BASINS--Continued

Periodic determinations of suspended-sediment discharge and particle-size, water year October 1966 to September 1967--Continued
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
DELAWARE RIVER BASIN--Continued																		
1-4806.52. EAST BRANCH BRANDYWINE CREEK TRIBUTARY NEAR CUPOLA, PA.--Continued																		
Apr. 17, 1967	1700	50		5.6	32	.5												
Apr. 19	1600	52		3.1	5	T												
Apr. 27	1600	52		21	49	2.8												
Apr. 27	2200	46		19	29	1.5												
May 3	1600	64		4.8	11	.1												
May 7	1015	47		7.0	33	.6												
May 11	0710	50		14	47	1.8												
May 11	1430	51		17	88	4.0												
May 12	1015	52		7.4	37	.7												
May 17	1610	59		3.2	7	.1												
May 24	1600	56		2.4	6	T												
May 29	1120	56		3.2	26	.2												
May 29	1215	56		4.0	61	.6												
June 8	0640	60		1.6	8	T												
June 15	1300	65		1.7	10	T												
June 21	1000	67		1.4	7	T												
June 29	0925	60		3.2	82	.7												
July 6	1430	65		1.1	9	T												
July 13	0630	67		1.2	31	.1												
July 19	0705	63		1.2	7	T												
Aug. 2	1830	69		3.8	12	.1												
Aug. 3	1545	73		8.2	226	5.0												
Aug. 4	0930	70		6.5	21	.4												
Aug. 10	1940	70		4.4	16	.2												
Aug. 23	1840	68		3.7	14	.1												
Aug. 25	0750	62		48	61	7.9												
Aug. 25	1145	62		6.7	25	.4												
Aug. 25	2145	62		7.6	29	.6												
Aug. 31	0740	65		2.0	7	T												
Sept. 6	0700	59		1.5	6	T												
Sept. 27	0700	55		.8	8	T												
1-4806.55. EAST BRANCH BRANDYWINE CREEK AT GLENMOORE, PA.																		
Jan. 16, 1967	1700	--		17	38	1.7												
Mar. 29	1000	45		165	18	8.0												
May 7	1200	47		105	51	14												
May 8	1000	48		37	11	1.1												

T Less than 0.05 ton.

Periodic determinations of suspended-sediment discharge and particle-size, water year October 1966 to September 1967--Continued
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
DELAWARE RIVER BASIN--Continued																		
1-4806.58. INDIAN RUN AT GLENMOORE, PA.																		
Mar. 6, 1967	1215	36		7.5	2	T												
Mar. 6	1555	--		96	101	26												
Mar. 7	0930	35		380	287	294												
Mar. 7	1220	34		140	137	52												
Mar. 7	1420	34		105	84	24												
Mar. 7	1800	35		59	37	5.9												
Mar. 29	0945	45		26	22	1.5												
Apr. 17	1750	50		10	13	.4												
Apr. 27	1015	46		50	45	6.1												
May 7	1045	47		14	20	.8												
May 7	1800	48		88	63	15												
May 11	1500	51		28	55	4.2												
May 11	1645	51		41	63	7.0												
Aug. 4	0915	69		14	25	.9												
1-4806.62. CULBERTSON RUN AT LYNDELL, PA.																		
Jan. 14, 1967	1715	41		6.4	5	0.1												
Jan. 27	1450	--		72	1970	383												
Jan. 27	1635	--		84	1130	256												
Jan. 27	1900	--		34	216	20												
Feb. 16	1030	36		10	18	.5												
Mar. 6	1540	--		36	255	25												
Mar. 6	1730	34		26	74	5.2												
Mar. 7	1315	35		36	130	13												
Mar. 7	1610	35		22	62	3.7												
Mar. 29	0915	45		8.4	7	.2												
Mar. 31	0900	44		4.9	4	.1												
Apr. 17	1815	50		8.6	38	.9												
Apr. 27	1030	46		14	28	1.0												
May 7	1145	48		22	322	19												
May 7	1530	48		22	71	4.2												
May 11	1515	51		14	73	2.8												
May 11	1700	51		12	73	2.4												
May 11	1830	51		10	45	1.2												
Aug. 4	0845	69		9.4	16	.4												
1-4806.65. EAST BRANCH BRANDYWINE CREEK AT DORLAN, PA.																		
Jan. 16, 1967	1210	35		13	11	0.4												
Jan. 16	1600	35		8.5	7	.2												
Feb. 17	1100	32		6.5	3	.1												
Mar. 7	0900	34		1450	1020	3990												
Mar. 7	1240	34		1020	461	1270												
Mar. 7	1405	35		868	360	844												

T Less than 0.05 ton.

MISCELLANEOUS ANALYSES OF STREAMS IN NORTH ATLANTIC SLOPE BASINS--Continued

Periodic determinations of suspended-sediment discharge and particle-size, water year October 1966 to September 1967--Continued
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
DELAWARE RIVER BASIN--Continued																		
1-4806.65. EAST BRANCH BRANDYWINE CREEK AT DORLAN, PA.--Continued																		
Mar. 7, 1967.....	1545	35		625	296	500												
Mar. 29.....	0845	45		74	9	1.8												
Mar. 29.....	1615	50		80	15	3.2												
Apr. 17.....	1830	50		43	5	.6												
Apr. 26.....	1345	47		38	3	.3												
Apr. 27.....	1200	46		213	103	59												
Apr. 28.....	1200	47		67	7	1.3												
May 7.....	1200	48		87	26	6.1												
May 7.....	1700	48		349	352	332												
May 8.....	0745	47		108	21	6.1												
May 9.....	0830	47		67	6	1.1												
May 11.....	2000	51		141	48	18												
May 12.....	0700	51		86	38	8.8												
Aug. 4.....	0900	70		126	96	33												
Aug. 4.....	1115	70		98	64	17												
Aug. 4.....	1400	70		80	35	7.6												
Aug. 10.....	0830	70		128	52	18												
1-4807. EAST BRANCH BRANDYWINE CREEK NEAR DOWNINGTOWN, PA.																		
Jan. 27, 1967.....	1510	--		219	683	404												
Jan. 27.....	1650	--		660	1880	3350												
Jan. 27.....	1915	--		748	1130	2280												
SUSQUEHANNA RIVER BASIN																		
1-5030. SUSQUEHANNA RIVER AT CONKLIN, N. Y.																		
Nov. 30, 1966.....	1610	43		1750	11	52												
Apr. 27, 1967.....	1400	--		5100	17	234												
May 11.....	1545	46		5520	14	209												
May 12.....	0920	45		7880	23	489												
1-5150. SUSQUEHANNA RIVER NEAR WAVERLY, N. Y.																		
Nov. 30, 1966.....	1345	44		7390	90	1800												
Apr. 28, 1967.....	0830	45		8770	23	545												
May 11.....	1430	46		11100	13	390												
May 11.....	1745	45		12200	26	856												
May 11.....	2245	45		16600	103	4620												
May 12.....	0215	--		19400	87	4560												
May 12.....	0645	--		21600	78	4550												
May 12.....	0945	--		22100	92	5490												
May 12.....	1530	48		21500	83	4820												
May 12.....	2100	48		20100	60	3260												
May 13.....	0145	--		19300	49	2550												
May 13.....	0645	46		18700	44	2220												
May 13.....	0930	50		18200	42	2060												
1-5180. TIOGA RIVER AT TIOGA, PA.																		
Nov. 30, 1966.....	0915	38		901	37	90												
Mar. 11, 1967.....	0615	42		1840	46	228												
Mar. 11.....	1030	34		1690	30	137												
Mar. 11.....	1300	35		1690	28	128												
Mar. 11.....	1545	--		1880	44	223												
Mar. 11.....	1745	--		645	880	1530												

Periodic determinations of suspended-sediment discharge and particle-size, water year October 1966 to September 1967--Continued
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
SUSQUEHANNA RIVER BASIN--Continued																		
1-5180. TIOGA RIVER AT TIOGA, PA.--Continued																		
Mar. 11, 1967.....	1945	--		672	538	976												
Mar. 11.....	2020	34		697	384	723												
Mar. 12.....	0100	34		2680	260	1880												
Mar. 12.....	0820	33		1460	75	296												
Mar. 12.....	1525	35		1340	74	268												
Apr. 6.....	1700	47		1080	49	143												
Apr. 27.....	0730	43		401	11	12												
May 11.....	1700	--		796	35	75												
May 12.....	0730	--		962	18	47												
1-5185. CROOKED CREEK AT TIOGA, PA.																		
Nov. 30, 1966.....	0850	39		376	19	19												
Mar. 11, 1967.....	0630	--		360	105	102												
Mar. 11.....	1010	34		287	98	76												
Mar. 11.....	1245	35		285	57	44												
Mar. 11.....	1530	--		627	159	269												
Mar. 11.....	1710	35		1030	1200	3340												
Mar. 11.....	1730	33		1130	831	2540												
Mar. 11.....	1930	--		1420	1140	4370												
Mar. 11.....	2035	34		1400	510	1930												
Mar. 12.....	0115	34		1390	321	1200												
Mar. 12.....	0845	33		675	106	190												
Mar. 12.....	1545	35		581	63	99												
Apr. 27.....	0715	44		150	6	2												
May 11.....	1645	44		356	16	15												
May 12.....	0715	--		414	19	21												
1-5205. TIOGA RIVER AT LINDLEY, N. Y.																		
Nov. 30, 1966.....	0945	38		2220	27	160												
Mar. 10, 1967.....	2315	33		642	85	147												
Mar. 11.....	0645	34		3830	209	2160												
Mar. 11.....	0920	34		3400	158	1450												
Mar. 11.....	1205	35		3020	124	1010												
Mar. 11.....	1600	--		3700	238	2380												
Mar. 11.....	1625	35		3780	244	2490												
Mar. 11.....	1815	33		4740	454	5810												
Mar. 11.....	2145	34		9370	722	18300												
Mar. 12.....	0030	34		9540	442	11400												
Mar. 12.....	1430	34		3780	119	1210												
Mar. 12.....	1730	34		3900	126	1330												
Apr. 6.....	1730	49		4840	212	2800												
Apr. 27.....	0800	44		988	7	19												
May 11.....	1615	44		1960	39	210												
May 11.....	2040	--		3590	97	940												
May 11.....	2245	--		4730	197	2500												
May 12.....	0125	--		5050	213	2900												
May 12.....	0605	--		3960	90	960												
May 12.....	1050	--		3160	40	340												
May 12.....	1320	--		2900	26	200												

MISCELLANEOUS ANALYSES OF STREAMS IN NORTH ATLANTIC SLOPE BASINS--Continued

Periodic determinations of suspended-sediment discharge and particle-size, water year October 1966 to September 1967--Continued
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
SUSQUEHANNA RIVER BASIN--Continued																		
1-5310. CHEMUNG RIVER AT CHEMUNG, N. Y.																		
Nov. 30, 1966.....	1145	39		8140	68	1490												
Apr. 27, 1967.....	1145	49		3100	6	50												
May 11.....	1530	45		6230	18	303												
May 11.....	1830	--		7960	94	2020												
May 11.....	2000	--		9120	114	2810												
May 11.....	2330	--		11400	154	4740												
May 12.....	0515	43		15500	245	10300												
May 12.....	1045	43		17500	237	11200												
May 12.....	1630	48		15800	130	5540												
May 12.....	1800	48		15000	117	4740												
May 13.....	0045	47		12100	84	2740												
May 13.....	0530	--		10400	65	1820												
May 13.....	0830	50		9470	58	1480												
1-5456. YOUNG WOMANS CREEK NEAR RENOVO, PA. (Hydrologic bench-mark station)																		
Nov. 14, 1966.....	1415	42		16	1	T												
Feb. 27, 1967.....	1320	32		30	1	0.1												
Mar. 27.....	1445	48		114	4	1.2												
May 1.....	1345	53		100	3	.8												
June 19.....	1515	65		20	2	.1												
July 25.....	1530	70		12	1	T												
1-5545.3. SHAMOKIN CREEK AT PAXINOS, PA.																		
Oct. 20, 1966.....	1510	56		34	1030	94												
Oct. 25.....	1700	59		36	583	57												
Nov. 2.....	1330	60		30	875	71												
Nov. 9.....	0700	52		32	185	16												
Nov. 16.....	1700	49		52	531	74												
Nov. 25.....	1700	48		48	464	60												
Nov. 30.....	1700	50		70	534	101												
Dec. 10.....	2100	59		61	230	38												
Dec. 15.....	1800	46		45	645	78												
Dec. 21.....	1735	42		53	521	74												
Dec. 28.....	0915	32		39	217	23												
Jan. 3, 1967.....	1920	--		49	656	87												
Jan. 10.....	1530	46		40	452	49												
Jan. 18.....	0830	38		43	220	26												
Jan. 24.....	2300	--		43	438	51												
Feb. 1.....	1620	44		57	758	117												
Feb. 8.....	1125	39		50	384	52												
Feb. 14.....	2030	45		45	586	71												
Feb. 22.....	1230	--		56	601	91												
Mar. 2.....	1715	40		44	773	92												

T Less than 0.05 ton.

Periodic determinations of suspended-sediment discharge and particle-size, water year October 1966 to September 1967--Continued
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
SUSQUEHANNA RIVER BASIN--Continued																		
1-5550. PENNS CREEK AT PENNS CREEK, PA.																		
Nov. 9, 1966	1400	48		58	1	T												
Dec. 22	1315	34		275	1	1												
Feb. 1, 1967	1500	35		393	3	3												
Mar. 6	1545	35		1100	166	493												
Mar. 6	1830	--		1450	137	536												
Mar. 7	0930	--		987	47	125												
Mar. 7	1025	--		959	48	124												
Mar. 7	1545	--		846	50	114												
Mar. 8	1250	36		643	11	19												
Mar. 8	1300	36		643	12	21												
Mar. 16	1035	38		2640	96	684												
Mar. 16	1335	40		2530	60	410												
Mar. 16	1745	40		2470	46	307												
Mar. 17	0100	40		2350	42	266												
Mar. 17	0400	39		2300	37	230												
Mar. 17	0700	--		2230	34	205												
Apr. 28	1350	55		760	15	31												
May 7	2030	47		1590	84	361												
May 8	0245	45		1550	45	188												
May 8	0530	45		1500	41	166												
May 8	0600	45		1440	40	156												
June 8	1740	76		257	3	2												
July 18	1720	72		181	8	4												
Aug. 4	1045	--		1750	261	1230												
Aug. 4	1130	--		1640	273	1210												
Aug. 4	1230	--		1540	283	1180												
Aug. 4	1400	--		1290	253	881												
Aug. 4	1500	--		1180	218	695												
Aug. 30	1600	69		186	5	2												
1-5555. EAST MAHANTANGO CREEK NEAR DALMATIA, PA.																		
Oct. 18, 1966	1300	--		14	1	T												
Dec. 5	1210	32		138	3	1												
Jan. 2, 1967	0850	32		107	2	1												
Feb. 10	1030	32		165	7	3												
Mar. 6	1040	34		1820	1180	5800												
Mar. 6	1140	34		2020	1350	7360												
Mar. 6	1600	36		2520	1210	8230												
Mar. 6	1700	36		2530	1150	7860												
Mar. 6	2000	35		2460	749	4970												
Mar. 7	1215	38		1370	108	399												
Mar. 7	1315	38		1320	103	367												
Mar. 7	1400	39		1300	99	347												
Mar. 8	1115	35		762	41	84												
Mar. 16	1530	39		1170	37	117												
Mar. 16	1600	40		1170	35	110												
Mar. 17	0830	41		1050	33	94												
Mar. 29	1500	50		502	30	41												
June 28	1225	--		46	5	1												

T Less than 0.50 ton.

MISCELLANEOUS ANALYSES OF STREAMS IN NORTH ATLANTIC SLOPE BASINS--Continued

Periodic determinations of suspended-sediment discharge and particle-size, water year October 1966 to September 1967--Continued
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
SUSQUEHANNA RIVER BASIN--Continued																		
1-5555. EAST MAHANTANGO CREEK NEAR DALMATIA, PA.--Continued																		
July 24, 1967	1200	76		82	6	1												
Aug. 4	0910	72		117	13	4												
Aug. 4	1705	74		134	18	6												
1-5600. DUNNING CREEK AT BELDEN, PA.																		
Oct. 18, 1966	1120	47		17	1	T												
Dec. 6	1435	32		77	2	T												
Jan. 20, 1967	0930	32		34	1	T												
Jan. 24	1430	41		133	11	4												
Feb. 22	1545	35		130	3	1												
Mar. 16	1430	40		1090	16	47												
Mar. 17	0950	--		955	10	26												
Apr. 5	1845	54		221	7	4												
May 15	1600	74		466	60	75												
Aug. 4	1545	77		28	12	1												
Aug. 17	1255	62		9	4	T												
Sept. 21	1150	66		46	815	101												
1-5620. RAYSTOWN BRANCH JUNIATA RIVER AT SAXTON, PA.																		
Oct. 18, 1966	1505	49		76	1	T												
Dec. 7	0900	33		306	1	1												
Jan. 23, 1967	1525	40		226	2	1												
Feb. 22	1150	33		478	4	5												
Mar. 7	1205	35		14800	363	14500												
Mar. 16	1555	39		4790	96	1240												
Mar. 16	1800	43		4670	73	920												
Mar. 16	2100	42		4450	57	685												
Mar. 17	0010	42		4230	44	502												
Apr. 6	0920	52		849	6	14												
May 18	1245	56		1540	19	79												
June 28	0900	70		170	2	1												
Aug. 4	1400	78		683	24	44												
Aug. 17	1020	74		155	1	T												
Sept. 21	0830	69		93	1	T												
1-5650. KISHACOQUILLAS CREEK AT REEDSVILLE, PA.																		
Oct. 12, 1966	1615	--		30	1	T												
Nov. 29	1130	42		734	57	113												
Jan. 3, 1967	1730	40		79	2	T												
Mar. 2	0920	35		92	1	T												
Mar. 16	1315	43		1280	51	176												
Mar. 16	1400	40		1280	54	187												
Mar. 17	1100	38		1090	25	74												
Apr. 7	1340	54		570	51	78												
May 7	1420	43		613	89	147												
May 12	1345	50		605	28	46												
June 13	1320	68		117	9	3												
Aug. 4	1115	65		1060	333	953												
Sept. 6	0915	67		83	18	4												

T Less than 0.50 ton.

Periodic determinations of suspended-sediment discharge and particle-size, water year October 1966 to September 1967--Continued
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
SUSQUEHANNA RIVER BASIN--Continued																		
1-5680. SHERMAN CREEK AT SHERMANS DALE, PA.																		
Oct. 13, 1966	0910	50		37	1	T												
Dec. 6	1200	35		202	1	1												
Jan. 11, 1967	1045	32		141	1	T												
Mar. 2	1500	33		151	1	T												
Mar. 16	1305	41		1040	14	39												
Apr. 5	1115	48		321	4	3												
May 7	2140	--		3070	122	1010												
May 8	0720	47		2160	46	268												
May 8	1245	49		1800	20	97												
May 8	2200	50		1550	21	88												
May 9	0735	48		1340	17	62												
July 11	0900	73		111	41	12												
Aug. 4	0910	71		519	69	97												
Aug. 4	1300	77		472	66	84												
Aug. 16	0710	66		40	3	T												
Sept. 29	1050	64		213	20	12												
1-5715. YELLOW BREECHES CREEK NEAR CAMP HILL, PA.																		
Feb. 23, 1967				204	7	3.8												
Mar. 5				246	15	10												
Mar. 6				960	440	S 1400												
Mar. 7				1900	730	S 3800												
Mar. 8				1390	240	S 950												
Mar. 9				911	87	210												
Mar. 10				765	55	110												
Mar. 11				684	45	83												
Mar. 12				623	37	62												
Mar. 13				550	35	52												
Mar. 14				512	29	40												
Mar. 15				533	29	42												
Mar. 16				610	46	76												
Mar. 20				401	12	13												
Mar. 22				427	12	14												
Mar. 24				447	11	13												
Mar. 29				428	10	12												
Mar. 31				365	9	8.9												
Apr. 3				337	7	6.4												
Apr. 5				308	6	5.0												
Apr. 6				311	6	5.0												
Apr. 7				444	21	S 26												
Apr. 8				389	26	27												
Apr. 9				326	12	10												
Apr. 10				313	9	7.6												
Apr. 17				267	16	12												
Apr. 18				340	17	16												
Apr. 25				253	9	6.1												
Apr. 27				384	24	25												
Apr. 28				422	20	23												

S Computed by subdividing day.
T Less than 0.50 ton.

MISCELLANEOUS ANALYSES OF STREAMS IN NORTH ATLANTIC SLOPE BASINS--Continued

Periodic determinations of suspended-sediment discharge and particle-size, water year October 1966 to September 1967--Continued
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Water temperature (°F)	Sampling point	Discharge (cfs)	Sediment concentration (ppm)	Sediment discharge (tons per day)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
							0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	2.000	
SUSQUEHANNA RIVER BASIN--Continued																		
1-5715. YELLOW BREECHES CREEK NEAR CAMP HILL, PA.--Continued																		
May 3, 1967				376	13	13												
May 7	2230	50		994	220	--		45	58	73	86	97	100					SCBW
May 7				615	110	S 230												
May 8				880	110	260												
May 9				640	42	72												
May 10				536	28	40												
May 11				514	32	44												
May 12				582	36	56												
May 13				456	18	22												
May 14				414	15	17												
May 15				425	13	15												
May 16				496	30	40												
May 17				415	23	26												
May 18				380	18	18												
May 19				357	15	14												
May 20				358	14	14												
May 21				326	14	12												
May 22				315	13	11												
June 2				221	10	6.0												
June 9				167	9	4.0												
Aug. 4				932	780	S 2200												
Aug. 5				643	240	S 560												
Aug. 15				189	25	13												

S Computed by subdividing day.

3-0124. ALLEGHENY RIVER BELOW RESERVOIR, NEAR KINZUA, PA.

LOCATION.--Lat 41°15'16", long 79°00'18", just downstream from Allegheny River Reservoir near Kinzua, Warren County.
RECORDS AVAILABLE.--Chemical analyses: January 1966 to September 1967 (discontinued)
Water temperatures: January 1966 to September 1967 (discontinued).
EXTREMES, 1966-67.--Specific conductance: Maximum daily, 697 micromhos Nov. 1; minimum daily, 112 micromhos Dec. 13.
Water temperatures: Maximum, 68°F on several days during June and August; minimum, freezing point Jan. 30, 31, Feb. 7, 8.
EXTREMES, January 1966 to September 1967.--Specific conductance: Maximum daily, 724 micromhos Sept. 29, 1966; minimum daily, 94 micromhos Feb. 17, 1966.
Water temperatures: Maximum, 76°F July 15, 1966; minimum, freezing point on several days during January 1966, January and February 1967.
REMARKS.--Daily samples were collected at this station and samples were selected for analysis on the following basis: (1) Maximum daily specific conductance for each month, (2) minimum daily specific conductance for each month, and (3) median daily specific conductance for each month. Samples for iron and manganese were filtered clear when collected.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Lithium (Li)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Phosphorus as PO_4	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 8, 1966.				0.10	0.16						88	0	20	142	0.2	3.0	0.21	378	142	70		646	7.5	
Oct. 25.....				.32	.14						90	0	22	144	.2	2.5	.17	380	144	70		660	7.4	
Oct. 29.....				.16	.13						94	0	22	148	.1	2.4	.16	403	152	75		682	7.1	
Nov. 1.....				.32	.49						88	0	22	150	.2	2.7	.18	382	146	74		697	7.4	
Nov. 12.....				.83	.18						26	0	20	34	.1	2.0	.22	118	50	28		207	6.9	
Nov. 19.....				.42	.06						4[illegible]	0	20	52	.1	1.8	.23	166	70	36		289	7.1	
Dec. 2.....				.26	.00						26	0	19	31	.1	1.7	.20	111	48	26		194	6.8	
Dec. 13.....				.32	.00						16	0	16	14	.1	1.5	.24	56	31	18		112	6.7	
Dec. 25.....				.22	.00						50	0	18	52	.1	4.0	.21	169	78	37		302	6.9	
Jan. 10, 1967				.26	.10						62	0	19	59	.1	4.6	.33	200	94	43		344	7.0	
Jan. 17.....				.21	.14						56	0	20	58	.1	2.2	.31	186	83	37		329	7.3	
Jan. 28.....				.04	.04						27	0	19	23	.1	1.4	.25	76	44	22		155	6.6	
Feb. 8.....				.22	.10						26	0	17	26	.0	2.0	.19	92	44	22		163	6.6	
Feb. 16.....				.50	.21						26	0	16	26	.1	2.0	.06	99	46	24		169	6.7	
Feb. 21.....				.21	.11						32	0	17	30	.0	2.1	.48	107	54	28		194	7.0	
Mar. 7.....				.27	.12						34	0	16	34	.1	2.7	.10	112	54	26		206	7.1	
Mar. 17.....				.46	.00						38	0	16	38	.1	1.9	.08	148	56	25		246	7.8	
Mar. 28.....				.31	.04						26	0	16	26	.1	1.8	.05	102	43	22		168	7.4	
Apr. 6.....				.10	.00						26	0	14	20	.1	2.1	.07	80	41	20		152	7.6	
Apr. 15.....				.10	.00						22	0	14	19	.2	1.4	.06	68	37	19		134	7.4	
Apr. 26.....				.10	.00						20	0	14	16	.1	1.7	.07	66	34	18		122	7.0	
May 2.....				.09	.16						20	0	14	17	.1	1.0	.06	70	38	22		125	7.1	
May 13.....				.00	.30						24	0	14	16	.1	1.0	.08	76	38	18		128	7.3	
May 22.....				.03	.49						26	0	14	16	.1	.8	.01	78	34	12		144	7.3	
June 1.....				.00	.24						25	0	14	16	.2	.8	.01	76	38	18		131	7.3	
June 13.....				.00	.38						26	0	15	19	.2	.8	.09	68	39	18		136	7.1	
June 26.....				.00	.32						31	0	16	20	.2	.6	.03	92	44	18		150	7.3	
July 1.....				.10	.07						28	0	14	22	.2	1.0	1.9	80	42	19		152	7.4	
July 14.....				.23	.22						34	0	14	25	.1	1.0	1.1	90	46	18		168	7.2	
July 26.....				.29	.30						40	0	14	29	.1	1.4	2.4	98	52	19		191	7.3	
Aug. 7.....				.23	.13						34	0	15	24	.1	1.1	.08	80	46	18		171	7.6	
Aug. 17.....				--	--						35	0	15	30	.2	1.2	.14	98	50	22		188	7.1	
Aug. 30.....				.13	.08						40	0	15	28	.3	1.4	.06	110	52	19		192	7.3	
Sept. 1.....				.11	.07						40	0	14	28	.0	.8	.05	116	51	18		189	7.3	
Sept. 11.....				.08	.04						44	0	15	30	.0	.8	.07	126	54	18		200	7.1	
Sept. 27.....				.32	.48						38	0	16	25	.1	1.0	.05	96	50	19		181	6.9	

3-0124. ALLEGHENY RIVER BELOW RESERVOIR, NEAR KINZUA, PA.--Continued

Specific conductance (micromhos at 25°C), water year October 1966 to September 1967
(Once-daily measurement between 1300 and 1500)

Day	October	November	December	January	February	March	April	May	June	July	August	September
1.....	678	697	223	302	167	--	--	--	131	152	--	189
2.....	670	683	194	309	166	--	--	125	132	155	--	186
3.....	667	681	--	323	174	--	--	125	134	156	--	186
4.....	663	676	--	317	183	--	--	125	132	164	--	183
5.....	656	641	198	323	168	--	150	125	132	157	--	184
6.....	654	598	274	323	167	209	152	127	132	158	--	190
7.....	647	635	202	320	165	206	151	129	134	157	171	190
8.....	646	462	218	323	163	206	134	131	133	158	176	192
9.....	658	459	158	341	165	204	135	126	133	158	192	195
10.....	668	327	118	344	166	209	133	126	134	162	181	196
11.....	658	213	121	332	167	230	133	125	132	162	184	200
12.....	654	207	118	341	166	230	135	126	135	161	184	192
13.....	650	225	112	338	172	230	134	128	136	171	181	190
14.....	649	230	113	332	167	232	134	125	137	168	184	190
15.....	654	280	118	329	173	232	134	127	135	172	188	194
16.....	653	278	119	332	169	236	141	126	139	169	192	192
17.....	650	278	120	329	168	246	138	126	136	168	188	192
18.....	649	278	149	332	170	--	139	127	137	166	182	189
19.....	649	289	149	332	172	--	134	128	140	164	185	187
20.....	648	291	149	332	170	215	125	131	137	166	186	187
21.....	652	282	174	338	194	196	127	135	136	172	--	183
22.....	664	282	179	341	187	189	132	144	140	174	185	190
23.....	667	282	302	341	--	188	--	134	146	174	188	188
24.....	663	287	302	344	--	191	126	134	146	174	--	187
25.....	660	291	302	335	--	--	124	131	144	184	185	186
26.....	658	291	300	323	--	181	122	134	150	191	188	188
27.....	662	294	302	210	--	174	126	133	148	180	188	181
28.....	664	322	302	155	--	168	125	132	149	177	186	184
29.....	682	319	302	156	--	173	126	131	145	183	186	189
30.....	676	287	300	178	--	183	124	134	149	185	192	190
31.....	670	--	302	177	--	176	--	134	--	177	192	--
Average	659	378	204	304	--	--	133	129	138	168	--	189

Temperature (°F) of water, water year October 1966 to September 1967
(Once-daily measurement between 1300 and 1500)

Month	Day 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Average
October	58	58	52	52	56	56	55	55	55	54	54	54	54	54	56	54	54	53	53	52	52	52	52	--	--	--	51	51	50	48	48	53
November	48	52	47	47	40	40	40	49	49	54	50	48	43	43	42	42	47	47	46	44	42	40	40	40	40	35	43	41	41	40	--	44
December	38	37	--	--	35	35	36	35	37	42	42	45	43	42	39	39	38	36	38	38	37	38	38	38	38	38	38	38	36	36	35	38
January.....	35	36	35	35	35	34	34	34	34	34	34	35	35	35	35	35	35	36	36	37	39	39	39	39	40	36	37	39	39	32	32	36
February.....	36	36	36	35	35	33	32	32	34	35	34	34	34	35	34	35	35	36	36	36	34	34	--	--	--	--	--	--	--	--	--	35
March.....	--	--	--	--	--	34	34	34	35	35	35	35	35	36	36	37	33	--	--	37	38	37	37	36	--	39	37	38	38	--	--	--
April.....	--	--	--	--	40	40	40	40	40	40	40	41	41	41	42	38	45	42	44	45	45	43	--	44	45	46	46	46	46	46	--	43
May.....	--	46	45	45	47	46	46	46	45	46	48	46	48	48	46	46	47	48	48	48	48	48	49	46	48	49	49	49	49	48	48	47
June	49	49	49	49	49	49	49	49	49	49	49	54	60	62	59	62	62	65	68	64	63	63	63	64	62	64	65	65	61	62	--	58
July.....	64	64	65	66	64	65	64	65	65	66	67	66	67	67	67	66	66	66	65	66	66	65	66	64	64	66	67	67	67	67	67	66
August.....	--	--	--	--	--	--	64	63	66	67	68	67	67	67	67	66	68	68	67	67	--	67	68	--	68	67	67	67	65	67	67	--
September	67	66	66	65	65	64	64	66	66	65	64	64	64	64	64	65	66	64	63	64	62	60	60	60	60	60	59	59	60	60	--	63

3-0125. ALLEGHENY RIVER NEAR KINZUA, PA.

LOCATION.--Lat 41°49'25", long 79°07'10", at bridge on U.S. Highway 6, Warren County, 6.9 miles downstream from Kinzua Dam, and at mile 191.2.
DRAINAGE AREA.--2,223 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1948 to September 1951, October 1961 to September 1967.
Water temperatures: October 1948 to September 1951, October 1961 to September 1967.
EXTREMES, 1966-67.--Specific conductance: Maximum daily, 654 micromhos Nov. 3; minimum daily, 82 micromhos May 14.
Water temperatures: Maximum, 69°F July 31, Aug. 1; minimum, 33°F Jan. 20, 21.
EXTREMES, 1948-51, 1961-67.--Dissolved solids (1948-49): Maximum, 573 ppm Sept. 11-20, 1949; minimum, 100 ppm Apr. 11-20, 1949.
Hardness (1948-51): Maximum, 180 ppm Oct. 1-10, 1948; minimum, 27 ppm Mar. 1-10, 1951.
Specific conductance: Maximum daily, 1,110 micromhos Oct. 13, 1948; minimum daily, 43 micromhos Jan. 22, 1962.
Water temperatures: Maximum, 84°F July 13, 14, 1949; minimum, freezing point on many days during winter months.
REMARKS.--Where no potassium (K) is reported, sodium (Na) and potassium (K) are calculated and reported as sodium (Na).

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 1-10, 1966	457	3.3		0.00	0.00	44	8.1	68	2.6	86	21	138	0.1	1.7	386	144	73		630	7.0	3
Nov. 1-10.....	2320	10		.00	.00	41	8.0	62	2.3	77	20	122	.1	1.9	325	136	73		562	6.7	1
Dec. 1-10.....	4370	--		--	--	--	--	25	--	30	19	36	--	15	--	54	30		203	6.6	9
Dec. 20.....	2860	5.5		.00	.00	12	2.8	10	1.2	24	17	20	.0	1.5	95	42	22		144	6.3	3
Jan. 1-10, 1967	1030	--		--	--	--	--	25	--	50	18	54	--	4.5	--	84	43		305	6.9	6
Jan. 24.....	800	7.6		.00	.00	22	5.5	25	1.2	44	18	56	.1	1.9	184	78	42		294	6.9	3
Feb. 1-10.....	3630	--		--	--	--	--	11	--	27	16	25	--	1.3	--	51	29		164	6.7	2
Feb. 15.....	500	--		--	--	--	--	14	--	26	16	26	--	1.5	--	46	25		162	6.9	4
Mar. 1-10.....	452	--		--	--	--	--	30	--	34	18	50	--	1.8	--	54	26		260	7.2	2
Apr. 1-10.....	10250	--		--	--	--	--	11	--	24	15	20	--	1.9	--	40	21		141	6.7	4
May 1-10.....	4510	--		--	--	--	--	10	--	24	14	16	--	1.3	--	35	16		118	7.1	2
May 11.....	8790	--		--	--	--	--	9.0	--	22	14	16	--	.7	--	36	18		121	6.8	7
June 1-10.....	1530	--		--	--	--	--	11	--	27	14	17	--	1.3	--	38	16		132	6.8	2
July 11-20.....	819	--		--	--	--	--	13	--	33	15	21	--	.8	--	45	18		154	6.6	5
Aug. 1-10.....	3450	--		--	--	--	--	15	--	37	14	26	--	1.6	--	50	20		174	6.8	4
Aug. 16.....	2340	5.5		.00	.00	36	4.0	16	1.6	110	14	28	.1	.0	174	107	17		290	7.6	6
Sept. 1-10.....	2740	--		--	--	--	--	17	--	41	12	29	--	2.2	--	51	18		185	6.7	7
Sept. 18.....	4220	8.5		.00	.01	16	3.4	15	1.4	40	13	28	.1	.4	130	54	21		189	7.0	8
Analyses of additional samples collected at time of discharge measurements																					
Nov. 1, 1966...	--	2.9		.00	.00	46	3.5	76	2.4	86	23	148	.2	1.6	404	130	59		646	7.1	4
July 13, 1967..	980	5.8		.00	.00	33	3.2	12	1.2	94	14	22	.0	.4	152	96	19		249	7.6	6

3-0125. ALLEGHENY RIVER NEAR KINZUA, PA.--Continued

Specific conductance (micromhos at 25°C), water year October 1966 to September 1967

Day	October	November	December	January	February	March	April	May	June	July	August	September
1.....	642	648	243	309	160	584	170	121	132	151	177	184
2.....	641	646	242	288	159	577	158	121	130	149	186	179
3.....	626	654	276	290	160	206	149	120	131	149	178	179
4.....	633	647	260	309	177	202	144	121	133	152	176	178
5.....	623	585	189	019	178	193	142	123	132	151	168	180
6.....	616	541	189	309	159	200	134	124	132	153	159	183
7.....	621	556	54	311	168	192	130	124	132	155	159	185
8.....	624	571	185	311	167	192	128	123	133	151	164	180
9.....	621	467	189	306	160	192	127	82	133	157	184	192
10.....	629	370	128	320	159	196	134	119	133	158	178	197
11.....	629	221	113	290	196	189	137	121	133	139	181	191
12.....	628	--	109	287	222	190	132	116	137	138	178	187
13.....	629	217	110	319	159	184	130	114	139	157	178	181
14.....	619	191	111	319	157	186	135	82	135	160	178	183
15.....	585	197	112	327	171	183	133	121	139	164	180	191
16.....	591	192	114	317	162	192	141	122	135	166	195	184
17.....	619	261	121	310	161	239	140	122	134	167	185	186
18.....	621	270	121	324	157	231	132	--	134	166	180	181
19.....	614	263	148	311	153	228	132	124	134	169	178	169
20.....	613	259	142	316	147	228	120	126	135	167	178	169
21.....	612	261	135	316	157	189	122	130	137	166	178	168
22.....	615	261	172	302	182	187	136	130	139	174	180	168
23.....	614	269	173	302	180	184	132	130	141	171	187	171
24.....	619	264	184	301	179	186	133	130	141	173	184	171
25.....	633	273	179	302	184	187	--	128	139	175	180	170
26.....	631	272	232	283	186	185	123	130	140	192	184	170
27.....	633	274	232	283	186	160	120	130	149	173	184	172
28.....	629	274	183	263	592	143	124	130	148	172	179	172
29.....	627	240	293	161	--	123	121	--	145	178	180	170
30.....	634	286	302	159	--	162	137	132	147	184	185	182
31.....	645	--	299	167	--	173	--	130	--	182	178	--
Average	623	359	178	281	184	214	134	121	136	163	178	179

Temperature (°F) of water, water year October 1966 to September 1967

MONTH	DAY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER..	56	54	55	52	54	54	54	53	53	54	53	54	52	49	51	54	50	48	48	46	44	44	45	47	48	48	48	46	46	48	47	50
NOVEMBER.	48	48	48	47	45	42	40	41	45	47	46	--	45	44	44	43	44	45	45	42	44	40	38	40	42	42	40	40	40	40	--	43
DECEMBER.	38	38	37	36	35	35	36	38	38	40	40	40	40	40	40	40	35	38	37	37	37	37	36	36	36	36	35	35	35	35	34	37
JANUARY..	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	33	33	34	34	35	36	37	--	--	36	36	36	34
FEBRUARY.	38	40	38	38	38	38	--	36	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	--	--	--	--	35
MARCH....	34	34	34	34	34	34	34	34	34	35	36	37	37	38	40	38	36	36	34	34	36	36	37	39	41	41	41	42	42	40	38	36
APRIL....	38	40	40	40	40	40	41	42	42	40	42	42	44	46	44	46	46	44	44	46	46	46	44	44	--	44	46	44	44	44	--	43
MAY.....	44	44	45	45	45	45	--	45	45	45	46	46	46	46	45	44	45	45	46	45	45	45	--	--	45	46	46	46	--	46	46	45
JUNE.....	46	46	46	46	46	46	47	47	47	47	55	60	62	62	62	62	62	62	62	62	62	62	62	--	62	62	64	64	64	64	--	56
JULY.....	64	64	64	64	64	65	65	65	65	65	64	64	64	64	64	64	64	64	64	64	65	65	66	65	65	66	64	64	68	68	69	64
AUGUST...	69	63	65	--	--	62	62	63	63	64	64	64	64	66	67	67	63	68	68	65	64	63	64	64	64	64	65	64	63	63	63	64
SEPTEMBER	63	65	65	63	63	63	63	64	63	63	62	62	62	62	62	62	63	62	63	62	61	59	59	59	58	58	58	58	58	58	--	61

CLARION RIVER BASIN

3-0294. TOMS RUN AT COOKSBURG, PA.

LOCATION.--Lat 41°20'15", long 79°12'50", at gaging station on right bank about 100 feet downstream from footbridge on Longfellow Trail, 0.6 mile upstream from mouth, and 0.5 mile northwest of Cooksburg, Forest County.
DRAINAGE AREA.--12.6 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1964 to September 1967.

Chemical analyses, in parts per million, December 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
																Calcium, magnesium	Noncarbonate				
Dec. 9, 1966...	81	15	--	0.00	--	8.5	2.5	5.0	1.1	14	23	5.6	0.2	0.1	71	32	20		116	6.7	3
Jan. 26, 1967..	16	9.5	--	.00	0.20	8.6	3.8	7.0	1.2	12	35	6.5	.1	.5	81	37	27		116	5.9	3
Feb. 14.....	14	--	--	--	--	--	--	A 6.0	--	9	27	4.0	--	.3	--	28	21		88	6.5	2
Mar.28.....	141	5.3	0.2	.00	.22	6.0	3.0	4.5	1.0	2	30	6.0	.2	.8	64	28	26		84	5.6	5
Apr. 7.....	32	4.9	.1	.00	.30	6.0	3.0	4.5	1.0	4	29	5.9	.1	.2	64	28	24		91	5.7	2
July 12.....	44	5.1	--	.00	.20	5.0	2.8	2.5	1.0	4	24	2.5	.1	.0	47	24	21		73	6.1	1
Aug. 15.....	3.8	8.7	--	.00	.00	7.7	4.5	9.2	1.4	13	40	5.0	.1	.0	89	38	27		135	6.7	3
Aug. 22.....	3.1	9.8	--	.00	.00	9.8	6.9	11	1.5	12	58	6.5	.2	.3	129	53	43		176	6.6	1
Sept. 21.....	4.0	6.9	--	.00	.00	13	6.8	19	1.9	22	67	9.0	.0	.5	144	61	43		219	6.8	4

A Calculated Na plus K, reported as Na.

3-0365. ALLEGHENY RIVER AT KITTANNING, PA.

LOCATION.--Lat 40°49'15", long 79°31'55", at center of bridge on U.S. Highway 422 at Kittanning, Armstrong County, 2,500 feet downstream from gaging station.
DRAINAGE AREA.--8,973 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1944 to June 1953, October 1956 to September 1967.
Water temperatures: October 1944 to June 1953, October 1956 to September 1967.
EXTREMES, 1966-67.--Specific conductance: Maximum daily, 458 micromhos Oct. 30; minimum daily, 129 micromhos Apr. 1.
Water temperatures: Maximum, 79°F July 31; minimum, 33°F Feb. 27, Mar. 1.
EXTREMES, 1944-53, 1956-67.--Dissolved solids (1944-47, 1958-59): Maximum, 304 ppm Oct. 11-20, 1946; minimum, 63 ppm Mar. 1-10, 1945.
Hardness (1944-47, 1949-53, 1956-59): Maximum, 148 ppm Sept. 11-20, 1952; minimum, 34 ppm Feb. 21-28 and Mar. 1-10, 1951.
Specific conductance: Maximum daily, 580 micromhos Oct. 18, 1946; minimum daily, 76 micromhos Apr. 8, 9, 1947.
Water temperatures: Maximum, 86°F July 31 and Aug. 4, 1957; minimum, freezing point on many days during winter months.
REMARKS.--Where no potassium (K) is reported, sodium (Na) and potassium (K) are calculated and reported as sodium (Na).

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 1-10, 1966	1990	2.5		0.00	0.00	39	10	28	3.0	55	91	44	0.2	0.9	266	139	94		413	6.9	3
Nov. 1-8.....	4340	.4		.00	.00	39	9.5	31	2.5	69	66	52	.1	.4	246	137	80		412	7.0	2
Dec. 1-10.....	27770	--		--	--	--	--	12	--	27	46	18	--	1.9	--	70	48		207	6.5	10
Jan. 1-10, 1967	6560	--		--	--	--	--	15	--	39	58	22	--	2.1	--	92	60		261	6.8	4
Feb. 1-10.....	22500	--		--	--	--	--	13	--	20	41	16	--	8.7	--	61	45		176	6.5	3
Mar. 1-10.....	13450	--		--	--	--	--	8.5	--	23	59	16	--	1.8	--	86	67		227	6.9	5
Apr. 1-10.....	34220	--		--	--	--	--	9.0	--	21	36	13	--	1.6	--	55	38		161	6.3	4
May 1-10.....	20520	--		--	--	--	--	6.9	--	24	44	12	--	.6	--	68	49		165	7.0	4
June 1-10.....	6050	--		--	--	--	--	9.0	--	29	51	12	--	.5	--	75	51		209	6.8	2
July 1-10.....	5200	--		--	--	--	--	14	--	42	45	18	--	.8	--	77	43		223	7.1	3
Aug. 1-10.....	11170	--		--	--	--	--	9.7	--	42	34	13	--	1.6	--	69	35		184	6.8	9
Sept. 11-20....	5650	--		--	--	--	--	15	--	48	39	21	--	.8	--	78	39		229	7.0	8

Analysis of additional sample

Feb. 1, 1967...	17800	--		--	--	--	--	14	--	30	45	19	--	2.0	--	70	46		211	6.9	4

3-0365. ALLEGHENY RIVER AT KITTANNING, PA. --Continued

Specific conductance (micromhos at 25°C), water year October 1966 to September 1967

Day	October	November	December	January	February	March	April	May	June	July	August	September
1.....	408	456	219	255	193	228	129	158	202	215	191	222
2.....	425	449	206	259	181	229	149	162	195	224	204	208
3.....	404	442	195	267	196	235	162	163	210	229	201	--
4.....	426	409	229	259	174	249	162	167	203	212	204	--
5.....	423	379	237	257	160	233	160	169	204	261	223	183
6.....	415	379	219	272	165	234	161	167	202	226	196	185
7.....	423	368	221	272	166	223	171	166	203	220	161	197
8.....	421	435	231	258	174	219	175	184	207	212	151	197
9.....	406	--	163	263	176	218	165	175	209	214	157	214
10.....	403	--	138	267	184	204	159	158	220	232	159	222
11.....	403	--	138	272	184	195	171	153	218	213	161	216
12.....	394	--	135	274	197	207	165	145	222	226	184	229
13.....	386	--	135	285	197	185	169	137	225	244	194	229
14.....	386	--	135	263	206	169	176	135	230	190	202	233
15.....	391	196	130	261	216	157	174	140	232	164	219	244
16.....	403	--	136	--	212	148	173	141	245	141	213	224
17.....	383	--	137	269	226	146	188	148	239	150	206	222
18.....	384	--	--	268	228	148	191	151	230	159	206	222
19.....	380	--	157	262	201	151	194	150	234	154	221	224
20.....	380	--	163	250	183	156	188	152	244	157	217	222
21.....	380	230	159	253	182	177	165	149	245	168	223	224
22.....	383	230	170	271	189	179	168	148	248	172	228	218
23.....	380	233	188	263	196	197	152	161	226	195	217	231
24.....	379	224	192	287	188	207	174	167	229	210	176	224
25.....	383	228	193	276	196	204	162	161	212	226	197	224
26.....	389	245	205	227	207	201	165	171	212	200	194	212
27.....	403	264	202	201	208	217	172	173	216	194	197	207
28.....	434	259	212	185	218	191	174	176	216	158	208	203
29.....	450	254	215	228	--	166	182	193	203	158	211	218
30.....	458	251	225	209	--	148	167	184	197	181	246	225
31.....	456	--	250	195	--	131	--	195	--	174	258	--
Average	404	--	184	254	192	192	168	161	219	196	200	217

Temperature (°F) of water, water year October 1966 to September 1967

MONTH	DAY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER..	65	65	65	65	63	63	62	61	61	61	60	60	60	60	60	60	59	59	59	59	58	58	56	56	56	56	56	54	54	53	55	59
NOVEMBER.	54	54	53	53	52	50	50	54	--	--	--	--	--	--	48	--	--	--	--	--	47	47	46	46	46	46	45	--	45	45	--	--
DECEMBER.	45	34	38	38	37	37	37	39	41	38	39	--	39	40	41	40	40	--	39	39	39	38	39	37	37	37	38	37	37	36	37	38
JANUARY..	36	35	35	36	35	36	37	36	36	36	37	36	37	36	36	35	36	36	35	35	35	35	36	36	37	37	38	37	36	36	35	35
FEBRUARY.	36	36	36	36	36	36	36	35	35	35	37	36	35	35	36	36	35	35	35	35	36	35	34	35	35	34	33	34	--	--	--	35
MARCH....	33	34	34	36	36	34	35	35	35	35	36	37	35	38	38	37	36	36	36	36	37	37	37	37	37	37	38	38	38	37	40	36
APRIL....	38	39	40	41	40	40	42	42	42	42	39	39	48	50	50	50	49	48	49	50	50	50	50	49	50	50	49	49	49	49	--	45
MAY.....	50	50	51	50	50	52	52	50	52	50	50	50	50	51	50	50	50	50	50	51	50	51	51	52	53	53	54	54	65	64	63	52
JUNE.....	63	67	66	64	64	64	65	65	66	67	70	70	70	73	73	75	75	77	78	76	77	78	78	78	78	77	75	75	75	75	--	71
JULY.....	75	76	76	75	75	74	74	73	75	75	75	75	75	74	76	75	75	76	75	74	75	73	73	74	74	74	74	74	74	74	79	74
AUGUST...	73	73	73	75	73	75	73	75	75	75	74	74	73	73	74	72	71	74	74	74	74	74	73	73	73	71	71	71	71	71	70	73
SEPTEMBER	70	70	--	--	69	69	69	69	67	70	69	69	69	68	--	67	67	67	67	67	68	68	68	68	67	67	66	68	55	65	--	67

KISKIMINETAS RIVER BASIN

3-0415. CONEMAUGH RIVER AT SEWARD, PA.

LOCATION.--Lat 40°25'10", long 79°01'40", temperature recorder at gaging station on left bank at highway bridge on State Highway 56 at Seward, Westmoreland County, 2.0 miles downstream from Findley Run, and 9 miles northwest of Johnstown.
DRAINAGE AREA.--715 square miles.
RECORDS AVAILABLE.--Water temperatures: October 1962 to September 1967.
EXTREMES, 1966-67.--Water temperatures: Maximum, 83°F June 17, July 10; minimum, freezing point on Feb. 25.
EXTREMES, 1962-67.--Water temperatures: Maximum, 88°F Aug. 16, 1965; minimum, freezing point on many days during 1962-67.
REMARKS.--Records furnished by the Pennsylvania Electric Company.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
Apr. 3, 1967...	1670									0	201	10		0.8		174	174	0.8	510	3.9	4
May 17.....	2290									0	179	8.0		1.1		155	155	.6	414	4.4	4
Aug. 31.....	325	11	2.0	0.13	3.0	88	28	20	7.2	0	385	17	0.2	.5	596	335	335	1.2	892	3.5	1

Temperature (°F) of water, water year October 1966 to September 1967

Month	Day 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Average
October																																
Maximum	66	61	64	68	68	64	68	70	73	73	66	66	67	70	70	70	60	61	63	61	64	66	68	--	--	--	--	--	--	--	62	66
Minimum	62	57	57	62	62	60	62	64	67	66	63	60	62	63	66	60	60	60	60	59	58	58	65	--	--	--	--	--	--	--	54	61
November																																
Maximum	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
December																																
Maximum	44	43	40	40	44	44	44	47	50	50	50	44	42	42	41	42	45	48	47	45	43	44	44	42	39	39	42	42	42	42	42	44
Minimum	42	38	36	37	38	44	39	39	47	50	44	43	40	41	40	39	42	45	45	42	42	43	42	40	36	34	40	39	40	38	41	41
January																																
Maximum	43	43	46	46	44	46	47	47	45	44	--	--	--	--	--	42	44	44	44	48	48	48	48	50	52	54	54	47	38	39	40	46
Minimum	42	41	40	44	42	42	42	46	43	43	--	--	--	--	--	40	42	38	36	44	43	48	47	48	49	52	48	40	36	35	34	43
February																																
Maximum	40	42	41	40	41	41	39	41	42	41	38	36	41	44	45	45	38	40	41	41	41	40	40	38	34	39	39	39	--	--	--	40
Minimum	38	41	38	38	40	39	34	34	37	38	35	34	34	38	40	38	38	37	38	39	37	35	38	34	32	34	36	37	--	--	--	37
March																																
Maximum	40	45	44	38	38	38	38	40	43	45	44	44	43	46	46	42	40	38	40	41	41	42	42	44	46	48	47	46	50	51	53	43
Minimum	34	36	39	35	36	36	34	37	39	40	41	42	42	42	42	38	37	34	34	38	39	40	41	41	42	42	44	45	46	46	48	40
April																																
Maximum	54	58	58	53	53	58	58	53	53	54	52	52	51	60	61	62	61	55	50	57	56	58	55	54	54	53	50	52	54	58	--	55
Minimum	51	54	54	50	52	53	50	48	50	52	48	46	50	51	59	58	55	50	48	48	55	56	52	48	48	50	48	46	49	53	--	51
May																																
Maximum	58	59	58	56	57	57	52	50	50	51	51	52	54	54	53	54	53	59	59	60	58	58	61	64	64	65	68	70	69	64	66	58
Minimum	57	58	54	53	54	52	48	47	48	48	49	49	48	51	51	50	50	52	58	57	55	53	55	57	59	60	61	65	61	58	61	54
June																																
Maximum	67	69	71	72	74	73	75	75	76	78	80	80	81	81	82	82	83	82	78	76	79	78	78	81	80	74	74	74	74	78	--	77
Minimum	62	63	65	67	68	68	69	71	73	74	76	76	77	77	78	79	80	77	71	70	74	76	76	76	73	70	71	71	70	73	--	72
July																																
Maximum	82	78	78	74	73	76	76	79	81	83	82	81	81	79	77	75	76	78	79	78	78	79	81	81	80	79	82	81	76	76	78	79
Minimum	76	75	74	71	70	70	74	74	76	79	79	77	78	76	73	72	72	75	76	75	73	74	76	79	77	75	77	75	70	69	74	75
August																																
Maximum	79	80	82	82	76	77	76	80	79	76	74	75	75	76	79	80	80	79	79	78	77	78	78	74	76	78	78	74	76	76	76	78
Minimum	76	75	78	71	72	73	72	74	75	74	72	71	72	72	73	74	77	77	76	76	74	73	75	71	71	76	74	69	70	72	70	73
September																																
Maximum	72	72	74	76	76	76	78	77	77	74	70	70	72	72	74	75	76	77	77	77	75	73	68	67	67	70	73	73	60	59	--	73
Minimum	68	68	69	72	72	73	74	74	79	70	66	64	65	68	68	70	73	74	74	73	73	66	64	62	59	64	68	61	58	57	--	68

3-0485. KISKIMINETAS RIVER AT LEECHBURG (VANDERGRIFT), PA.

LOCATION.--Lat 40°36'20", long 79°33'15", at raw-water intake of West Leechburg plant of Allegheny-Ludlum Steel Corp., 0.2 mile below Brady Run, Armstrong County, and 6.7 miles downstream from gaging station at Vandergrift.
DRAINAGE AREA.--1,860 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1946 to September 1951, October 1958 to July 1959, October 1959 to September 1967.
Water temperatures: October 1946 to September 1951, October 1958 to July 1959, November 1959 to September 1967.
EXTREMES, 1966-67.--Specific conductance: Maximum daily, 1,920 micromhos Sept. 29; minimum daily, 203 micromhos Mar. 10.
Water temperatures: Maximum, 84°F June 17, 18; minimum, 34°F on several days in January.
EXTREMES, 1946-51, 1958-67.--Dissolved solids (1946-47, 1959-62): Maximum, 945 ppm Aug. 27 to Sept. 12, 1960; minimum, 141 ppm Mar. 30 to Apr. 8, 1960.
Hardness (1946-47, 1949-51, 1959-62): Maximum, 514 ppm Oct. 1-10 1946; minimum, 74 ppm Mar. 30 to Apr. 8, 1960.
Specific conductance: Maximum daily, 5,420 micromhos Aug. 12, 1951; minimum daily, 175 micromhos July 22, 1950.
Water temperatures: Maximum, 90°F July 25, 1950; minimum, freezing point on many days during winter months.
REMARKS.--Records of discharge are based on records for Kiskiminetas River at Vandergrift.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 1-2, 4, 6-10, 1966...	578	15	9.5	0.87	12	88	32	39	7.2	0	504	23	0.4	0.2	740	351	351	2.2	1160	3.4	3
Nov. 1-7, 9, 10	547	13	10	.75	15	117	35	52	18	0	637	29	.4	2.5	952	436	436	2.4	1430	3.3	2
Dec. 1-10.....	2690	--	--	--	--	--	--	--	--	0	191	17	--	5.2	--	180	180	.8	519	3.6	3
Jan. 1-10, 1967	941	--	--	--	--	--	--	--	--	0	376	24	--	.8	--	270	270	1.8	966	3.4	3
Feb. 1-7, 10...	4330	--	--	--	--	--	--	--	--	0	148	19	--	4.6	--	136	136	.6	415	3.8	1
Mar. 1-10.....	7880	--	--	--	--	--	--	--	--	0	164	18	--	2.8	--	145	145	.8	463	3.8	4
Apr. 1-10.....	4670	--	--	--	--	--	--	--	--	0	195	10	--	2.7	--	148	148	1.1	506	3.8	3
May 1-10.....	4090	--	--	--	--	--	--	--	--	0	202	9.5	--	.6	--	150	150	.9	505	3.7	3
June 1-10.....	1460	--	--	--	--	--	--	--	--	0	328	10	--	.4	--	232	232	1.7	791	3.5	2
July 1-10.....	603	--	--	--	--	--	--	--	--	0	612	20	--	1.7	--	420	420	2.9	1420	3.2	3
Aug. 2-10.....	1520	--	--	--	--	--	--	--	--	0	297	9.0	--	.9	--	216	216	1.4	728	3.4	3
Sept. 1-10.....	579	--	--	--	--	--	--	--	--	0	417	17	--	.6	--	312	312	2.4	1080	3.3	7

3-0485. KISKIMINETAS RIVER AT LEECHBURG (VANDERGRIFT), PA.--Continued

Specific conductance (micromhos at 25°C), water year October 1966 to September 1967

Day	October	November	December	January	February	March	April	May	June	July	August	September
1.....	1130	1470	617	934	468	590	455	480	631	1350	743	985
2.....	1490	1460	457	973	472	624	494	500	620	1360	785	949
3.....	--	1420	441	988	445	630	550	544	864	1520	742	920
4.....	1490	1470	479	981	399	638	554	553	697	1580	708	996
5.....	--	1490	521	977	342	540	567	560	753	1430	792	1070
6.....	1200	1480	594	962	327	425	636	560	820	1440	914	1120
7.....	1040	1440	736	869	380	376	643	626	849	1390	905	1210
8.....	930	--	638	901	--	403	491	628	903	1280	706	1250
9.....	944	1130	486	973	--	252	379	501	934	1330	636	1280
10.....	1050	1320	400	1010	529	203	338	331	988	1350	742	1250
11.....	1220	1290	391	904	558	219	410	278	1010	1380	837	1360
12.....	1230	1200	357	962	571	243	426	297	1040	1400	886	1380
13.....	1240	920	338	876	567	266	411	309	1080	1420	964	1460
14.....	1310	816	368	894	579	312	459	302	1100	1400	1030	1460
15.....	1360	664	400	898	576	348	536	279	1080	1400	1040	1460
16.....	1350	649	483	937	594	361	582	308	1150	1510	1040	1460
17.....	1350	676	519	937	538	333	602	322	1180	1350	1150	1460
18.....	1350	786	546	917	468	340	595	365	1190	1360	1160	1460
19.....	1350	832	602	927	386	346	594	388	1150	1350	1190	1460
20.....	1420	914	628	923	439	360	476	437	1290	1370	1200	1470
21.....	1410	988	613	882	483	388	494	491	1290	1600	1210	1530
22.....	1480	981	633	920	489	474	519	468	1320	1460	1300	1490
23.....	1530	1050	737	--	500	496	531	498	1080	1430	1350	1520
24.....	1520	988	769	1100	510	467	429	576	934	1460	1370	1550
25.....	1560	1120	760	1060	527	512	364	618	984	1240	1450	1570
26.....	1510	1140	769	955	526	538	426	648	984	1600	1160	--
27.....	1490	1170	796	821	553	468	435	689	1120	1430	1250	1550
28.....	1490	1120	808	786	577	424	479	730	1220	1120	1330	1390
29.....	1430	1260	882	686	--	404	436	795	1260	1090	1380	1920
30.....	--	973	897	611	--	437	422	799	1270	1010	1340	1030
31.....	--	--	966	447	--	398	--	747	--	868	1020	--
Average	1330	1110	601	900	492	413	491	504	1030	1360	1040	1350

3-0485. KISKIMINETAS RIVER AT LEECHBURG (VANDERGRIFT), PA.--Continued

Daily pH, water year October 1966 to September 1967

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	3.3	3.4	4.0	3.5	4.0	3.5	3.7	3.5	3.5	3.2	3.5	3.4
2.....	3.1	3.4	4.2	3.4	4.0	3.7	3.7	3.5	3.5	3.2	3.6	3.5
3.....	--	3.4	4.0	3.4	4.2	3.7	3.6	3.7	3.2	3.0	3.5	3.5
4.....	3.2	3.4	4.0	3.4	4.1	3.6	3.7	3.7	3.6	3.0	3.4	3.4
5.....	--	3.4	3.8	3.4	4.8	3.7	3.9	3.7	3.6	3.2	3.4	3.4
6.....	3.4	3.4	3.8	3.4	4.5	3.8	3.6	3.7	3.5	3.2	3.3	3.4
7.....	3.7	3.4	3.5	3.5	4.2	3.9	3.5	3.6	3.5	3.2	3.4	3.4
8.....	3.8	--	3.6	3.4	--	3.9	3.8	3.6	3.5	3.3	3.7	3.2
9.....	3.6	3.8	3.8	3.4	--	4.5	4.0	3.8	3.4	3.2	3.6	3.3
10.....	3.4	3.2	4.1	3.4	4.0	4.5	4.2	4.0	3.4	3.2	3.5	3.4
11.....	3.4	3.2	3.8	3.7	3.8	4.3	3.8	4.4	3.4	3.2	3.5	3.3
12.....	3.4	3.2	4.0	3.4	3.8	4.4	3.8	4.2	3.3	3.2	3.5	3.2
13.....	3.4	3.5	4.0	3.5	3.5	4.1	3.9	4.2	3.4	3.2	3.4	3.3
14.....	3.4	3.6	4.0	3.4	3.7	4.0	3.5	4.1	3.5	3.2	3.4	3.3
15.....	3.4	3.9	3.8	3.4	4.0	3.9	3.6	4.2	3.4	3.2	3.4	3.2
16.....	3.3	4.0	3.7	3.4	3.7	3.8	3.7	4.1	3.3	3.2	3.4	3.3
17.....	3.4	3.8	3.8	3.4	3.8	3.8	3.6	4.0	3.3	3.2	3.4	--
18.....	3.4	3.5	3.8	3.5	4.0	3.8	3.6	4.0	3.2	3.2	3.3	3.3
19.....	3.4	3.6	3.5	3.4	4.1	3.8	3.6	3.9	3.2	3.2	3.4	3.3
20.....	3.3	3.4	3.8	3.4	4.0	3.8	3.8	3.9	3.2	3.2	3.4	3.3
21.....	3.3	3.4	4.2	3.6	3.9	3.8	3.7	3.8	3.2	3.0	3.7	3.2
22.....	3.3	3.5	4.0	3.6	3.9	3.6	3.8	3.8	3.1	3.0	3.7	3.3
23.....	3.4	3.4	3.6	--	3.8	3.7	3.7	3.8	3.4	3.0	3.5	3.3
24.....	3.3	3.7	3.5	3.4	3.8	3.7	3.9	3.7	3.4	3.2	3.7	3.6
25.....	3.3	3.4	3.7	3.4	3.7	3.6	4.2	3.6	3.4	3.1	3.2	3.3
26.....	3.3	3.3	3.6	3.5	3.8	3.6	3.8	3.6	3.4	3.0	3.4	--
27.....	3.4	3.3	3.6	3.6	3.8	4.0	3.8	3.6	3.4	3.1	3.3	3.4
28.....	3.3	3.3	3.7	3.6	3.9	3.8	3.8	3.5	3.2	3.2	3.2	3.4
29.....	3.4	3.2	3.6	3.7	--	3.8	3.9	3.5	3.2	3.1	3.1	--
30.....	--	3.5	3.5	4.0	--	3.7	3.9	3.4	3.2	3.2	3.2	3.4
31.....	--	--	3.4	4.1	--	3.8	--	3.5	--	3.3	3.3	--

MAXIMUM VALUE = 4.8 MINIMUM VALUE = 3.0

Temperature (°F) of water, water year October 1966 to September 1967

MONTH	DAY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER..	58	56	--	60	--	57	56	56	60	62	59	60	59	64	62	60	54	54	54	--	53	56	58	54	57	53	52	54	54	--	--	57
NOVEMBER.	50	49	48	45	44	44	42	--	49	46	53	54	52	50	48	47	47	50	48	46	44	43	43	42	46	45	48	49	46	39	--	46
DECEMBER.	44	40	38	37	38	38	41	48	46	47	46	45	46	47	41	42	42	44	41	42	41	39	39	37	35	34	35	34	34	34	35	40
JANUARY..	37	36	38	37	35	36	38	37	34	34	35	36	36	36	37	34	37	34	34	34	36	44	--	46	48	49	51	42	42	43	38	38
FEBRUARY.	38	39	38	34	35	39	34	--	--	34	37	35	36	42	40	39	38	36	40	42	42	40	40	37	36	37	36	38	--	--	--	37
MARCH....	36	36	37	40	45	41	38	40	43	44	47	48	48	47	48	46	44	42	46	43	43	43	42	45	49	50	52	54	51	49	54	44
APRIL....	56	59	58	49	51	56	58	58	58	57	55	55	54	55	58	62	61	60	54	54	54	60	58	55	55	52	51	52	52	55	--	55
MAY.....	57	61	59	59	58	58	56	53	54	53	53	54	54	54	54	53	54	56	58	59	59	58	58	60	64	66	69	72	66	68	64	58
JUNE.....	67	69	71	71	74	74	73	75	76	79	80	80	80	82	82	82	84	84	79	76	78	79	79	78	78	79	73	76	79	78	--	77
JULY.....	80	78	78	75	72	72	74	76	78	81	80	80	79	76	76	76	75	77	79	78	76	76	79	81	78	77	76	78	76	76	78	77
AUGUST...	79	78	75	80	81	80	79	79	78	75	75	74	74	74	73	76	79	79	79	79	78	76	74	73	75	75	76	73	76	73	71	76
SEPTEMBER	64	69	69	70	74	75	76	77	77	73	73	68	64	76	68	73	--	75	73	74	73	68	65	66	62	--	68	67	62	60	--	69

3-0496.55. ALLEGHENY RIVER AT OAKMONT, PA.

LOCATION.--Lat 40°31'51", long 79°50'12", on left bank at Ohio River Valley Water Sanitation Commission (ORSANCO) monitor station at Oakmont filtration plant, Allegheny County, 0.5 mile upstream from Hulton Road Bridge, and 10.4 miles downstream from gaging station at Natrona.
DRAINAGE AREA.--11,520 square miles, approximately.
RECORDS AVAILABLE.--Chemical analyses: July 1963 to September 1967 (discontinued).
Water temperatures: July 1963 to September 1967 (discontinued).
EXTREMES, 1966-67.--Specific conductance: Maximum daily, 697 micromhos Oct. 1; minimum daily, 167 micromhos Dec. 12.
Water temperatures: Maximum, 81°F June 16, 17, 22; minimum, 34°F Feb. 10, 12, 22, 26.
EXTREMES, 1963-67.--Specific conductance: Maximum daily, 733 micromhos Nov. 6, 1963; minimum daily, 121 micromhos Mar. 11, 1964.
Water temperatures: Maximum, 89°F Aug. 22, 1966; minimum, freezing point on several days during December 1963, January 1964, January 1965, and January 1966.
REMARKS.--Daily samples were collected at this station and samples were selected for analysis on the following basis: (1) Maximum daily specific conductance for each month, (2) minimum daily specific conductance for each month, (3) median daily specific conductance for each month, and (4) a composite analysis each month to determine heavy metals. Samples for iron and manganese were filtered clear when collected. Records of discharge are given for Allegheny River at Natrona.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs) A/	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Lithium (Li)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Phosphorus as PO_4	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 1, 1966.	2960			0.16	5.2						0	0	276	34	0.5	2.6	0.53	434	230	230	0.4	697	4.1	
Oct. 6.....	3240			.38	2.3						10	0	177	34	.3	2.0	.12	326	178	170	--	506	6.7	
Oct. 30.....	1550			.21	2.0						15	0	191	40	.3	2.2	.26	343	194	182	--	551	6.6	
Nov. 2.....	2350			.22	2.4						12	0	204	40	.4	2.3	.24	368	196	186	--	583	5.9	
Nov. 17.....	11200			.60	1.0						20	0	72	19	.2	2.0	.16	145	88	72	--	258	6.6	
Nov. 29.....	15400			1.2	1.4						22	0	100	20	.2	2.4	.16	186	100	82	--	319	6.4	
Dec. 1.....	24600			--	--						22	0	98	21	.2	3.0	.09	190	112	94	--	333	6.3	
Dec. 12.....	59600			.61	.00						10	0	46	10	.1	2.3	.12	91	56	48	--	167	6.3	
Dec. 26.....	11600			1.4	.00						12	0	71	14	.2	2.4	.08	133	81	71	--	239	6.6	
Jan. 5, 1967.	8390			2.2	1.2						12	0	106	23	.2	3.4	.16	227	115	105	--	340	6.4	
Jan. 23.....	6820			2.9	1.4						6	0	132	22	.3	4.6	.24	256	134	129	--	383	5.9	
Jan. 29.....	28300			.87	.53						16	0	63	14	.1	2.9	.59	136	77	64	--	220	6.6	
Feb. 6.....	37800			1.8	.65						6	0	62	14	.1	3.0	.03	144	68	63	--	210	6.9	
Feb. 15.....	11600			2.6	2.1						1	0	98	15	.2	1.4	.09	208	97	96	--	292	4.8	
Feb. 25.....	9560			1.3	1.1						10	0	78	16	.2	2.1	.21	170	87	79	--	250	7.1	
Mar. 20.....	44600			3.9	1.7						0	0	93	10	.2	.8	.04	180	82	82	.4	282	4.1	
Mar. 23.....	37300			5.0	1.2						0	0	116	11	.2	.7	.06	198	98	98	.6	346	4.0	
Mar. 30.....	62700			1.1	1.0						4	0	62	11	.1	2.2	.04	124	58	55	--	189	6.7	
Apr. 1.....	59300			1.2	.21						2	0	60	8.0	.0	2.4	.00	95	62	60	--	180	5.6	
Apr. 12.....	37800			1.8	1.0						5	0	81	10	.1	2.1	.01	128	80	76	--	235	5.4	
Apr. 19.....	22800			1.2	.29						3	0	96	10	.2	2.0	.04	160	96	94	--	268	5.3	
May 4.....	21000			.72	.63						9	0	75	11	.2	1.5	.08	124	80	72	--	231	6.3	
May 16.....	45100			.76	.61						8	0	58	9.0	.2	2.2	.05	96	63	56	--	176	6.2	
May 31.....	12300			.57	.99						3	0	97	12	.2	1.6	.00	168	95	92	--	270	5.6	
June 4.....	8910			.74	.77						4	0	102	13	.2	1.5	.00	170	100	97	--	286	5.9	
June 13.....	5170			.32	1.0						4	0	116	15	.3	1.7	.00	190	113	110	--	322	5.7	
June 23.....	6880			.16	1.7						2	0	153	17	.4	2.6	.06	262	146	145	--	410	4.9	
July 9.....	4960			.12	.80						11	0	114	19	.1	1.8	.00	204	120	111	--	346	7.2	
July 18.....	6190			.31	.71						14	0	67	9.0	.1	3.3	.02	128	76	64	--	220	7.1	
July 28.....	15900			.10	.62						24	0	86	16	.1	1.8	.00	182	104	84	--	293	7.4	
Aug. 10.....	13100			1.3	.38						26	0	54	12	.0	2.6	.12	132	80	58	--	209	7.4	
Aug. 18.....	5380			.16	.74						18	0	86	18	.2	2.6	.12	166	100	85	--	287	7.2	
Aug. 26.....	5970			.06	.52						34	0	80	24	.2	2.4	.20	196	120	92	--	316	7.6	
Sept. 2.....	11300			.91	.65						80	0	103	18	.3	1.3	.07	212	116	51	--	328	7.3	
Sept. 9.....	7790			.18	.22						36	0	61	14	.3	1.4	.12	142	85	56	--	236	6.8	
Sept. 28.....	8860			.06	.43						34	0	70	26	.2	1.2	.08	170	116	88	--	294	6.6	

A Provisional records, subject to revision.

3-0496.55. ALLEGHENY RIVER AT OAKMONT, PA.--Continued

Additional determinations of heavy metals

Chemical analyses, in parts per million, water year October 1966 to September 1967--Continued

Date of collection	Mean discharge (cfs) A/	Chromium		Nickel (Ni)	Copper (Cu)	Lead (Pb)	Zinc (Zn)	Cobalt (Co)	Arsenic (As)	Selenium (Se)	Cadmium (Cd)
		Total Cr	Cr^6								
Oct. 1-31, 1966	2434	0.00		0.00	0.20	0.00	0.07	0.00	0.00		0.00
Nov. 1-30	10520	.00		.00	.00	.00	.03	.00	.00		.00
Dec. 1-31	28610	.00		.02	.00	.00	.06	.00	.00		.00
Jan. 1-31, 1967	11070	.00		.14	.01	.01	.09	.06	.00		.00
Feb. 1-28	19530	.00		.04	.00	.23	.09	.01	.00		.01
Mar. 1-31	40610	.00		.09	.07	.07	.12	--	.00		.00
Apr. 1-30	32010	.00		.01	.06	.00	.07	.02	.00		.00
May 1-31	31840	.00		.02	.08	.00	.08	.02	.00		.00
June 1-30	6558	.00		.02	.12	.00	.13	.02	.00		.00
July 1-31	9363	.00		.12	.26	.00	.04	.00	.00		.00
Aug. 1-31	9699	.00		.00	.00	.00	.02	.00	.00		.00
Sept. 1-30	9234	.00		.00	.00	.00	.00	.00	.00		.00

Specific conductance (micromhos at 25°C), water year October 1966 to September 1967 (Once-daily measurement between 0700 and 0830)

Day	October	November	December	January	February	March	April	May	June	July	August	September
1	597	575	333	291	232	303	180	241	351	329	--	314
2	665	583	324	296	243	301	188	237	314	327	--	328
3	610	569	271	328	248	301	198	235	297	327	--	306
4	573	536	256	331	235	311	216	231	286	313	281	280
5	522	508	260	340	212	316	224	244	295	324	302	262
6	508	540	290	340	210	319	220	259	295	342	247	262
7	559	535	293	340	215	266	231	--	306	336	264	266
8	625	533	290	347	228	262	232	259	306	327	230	254
9	544	522	215	340	238	291	234	231	314	346	225	236
10	549	512	189	347	232	231	217	218	327	339	209	246
11	596	438	189	347	248	207	211	196	333	333	210	260
12	590	442	187	337	245	207	235	175	319	339	228	266
13	580	356	178	340	--	213	234	187	322	313	235	301
14	575	311	176	354	--	220	241	190	336	242	229	291
15	553	276	179	357	292	222	241	180	361	256	243	298
16	546	280	187	347	285	210	245	176	361	225	266	296
17	538	258	192	357	279	229	248	187	365	221	274	301
18	544	272	179	361	287	241	266	205	379	220	287	308
19	544	264	191	361	281	257	268	216	365	249	289	311
20	556	268	197	361	250	282	260	225	361	249	296	316
21	566	268	210	365	243	296	253	228	365	249	298	308
22	564	278	214	367	250	316	245	228	367	265	272	308
23	544	287	229	383	255	346	226	227	410	293	270	301
24	545	303	251	374	268	334	243	230	397	313	289	296
25	546	306	247	340	250	306	246	214	353	265	303	284
26	544	311	239	325	264	314	228	231	318	313	316	294
27	554	314	247	319	259	334	237	225	310	284	311	291
28	547	331	260	251	290	294	235	230	318	293	306	294
29	544	319	265	220	--	221	243	252	329	275	298	296
30	551	325	269	267	--	189	241	266	320	273	301	256
31	556	--	293	286	--	194	--	270	--	--	289	--
Average	565	390	234	332	251	268	232	223	336	292	270	287

A Provisional records, subject to revision.

OHIO RIVER MAIN STEM--Continued

3-0496.55. ALLEGHENY RIVER AT OAKMONT, PA.--Continued

Temperature (°F) of water, water year October 1966 to September 1967
(Once-daily measurement between 0700 and 0830)

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October	68	65	66	66	66	66	65	64	64	64	64	64	64	65	65	65	62	64	65	64	62	62	63	59	61	61	60	60	60	59	56	63
November	59	59	56	54	50	49	50	50	51	51	50	47	49	49	49	48	49	49	49	46	46	46	45	47	46	47	47	48	46	43	--	49
December	43	43	43	42	37	36	38	38	43	44	45	45	44	43	41	40	40	40	39	39	40	39	38	36	36	35	35	36	36	35	37	40
January	36	37	36	37	37	37	37	36	36	37	36	36	37	37	37	37	38	36	37	36	36	36	37	38	38	39	39	38	37	37	39	37
February	37	39	35	35	37	36	35	35	35	34	35	34	--	--	37	37	35	35	35	35	37	34	35	35	35	34	35	35	--	--	--	35
March	35	35	36	36	36	38	36	35	37	39	40	40	40	42	44	42	41	41	41	41	41	39	39	39	39	44	46	47	47	47	47	40
April	49	50	51	52	52	51	51	50	53	52	52	50	51	50	52	54	56	53	56	56	56	--	--	--	55	53	55	51	52	53	--	52
May	55	57	56	57	57	58	--	54	51	48	48	48	47	49	50	50	50	50	50	52	53	53	54	54	54	58	58	60	63	62	63	54
June	63	64	66	65	68	68	68	70	72	72	74	75	76	78	80	81	81	80	80	80	80	81	80	79	79	78	78	78	77	77	--	75
July	67	77	76	--	74	74	74	74	75	77	80	79	79	79	75	74	67	74	74	76	75	75	75	76	75	75	75	76	75	74	--	75
August	--	--	--	78	76	76	77	76	76	74	74	74	72	73	74	76	76	76	76	76	74	75	75	74	74	74	--	72	70	70	70	74
September	73	73	67	68	69	69	69	72	72	69	71	72	71	71	68	67	68	68	68	71	72	69	67	67	66	67	67	67	67	60	--	69

3-0630. MONONGAHELA RIVER AT LOCK AND DAM 8, AT POINT MARION, PA.

LOCATION.--Lat 39°43'57", long 79°54'42", about 750 feet upstream from dam, lock and dam 8 (mile 90.8), at Point Marion, Fayette County, and 1.5 miles upstream from Cheat River.
DRAINAGE AREA.--2,720 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1955 to June 1963, January 1966 to September 1967 (discontinued).
Water temperatures: October 1955 to June 1963, January 1966 to September 1967 (discontinued).
EXTREMES, 1966-67.--Specific conductance: Maximum daily, 1,360 micromhos July 28; minimum daily, 141 micromhos Dec. 17.
Water temperatures: Maximum, 80°F June 17; minimum, 34°F Feb. 26.
EXTREMES, 1955-63, 1966-67.--Specific conductance: Maximum daily, 1,360 micromhos July 28, 1967; minimum daily, 106 micromhos Nov. 27, 1962.
Water temperatures: Maximum, 82°F on several days during July to September 1959, July and August 1960, and July 1966; minimum, freezing point on many days during winter months.
REMARKS.--Daily samples were collected at this station and samples were selected for analysis on the following basis: (1) Maximum daily specific conductance for each month, (2) minimum daily specific conductance for each month, and (3) median daily specific conductance for each month. Samples for iron and manganese were filtered clear when collected. Acidity values determined to pH 7.0. No discharge records available.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Lithium (Li)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Phosphorus as PO_4	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 4, 1966.				0.62	1.5						0	0	306	9.0	0.4	2.3	0.34	426	218	218	1.0	758	3.7	
Oct. 10.....				.10	.32						1	0	76	6.0	.2	.8	.48	127	68	67	--	209	5.2	
Oct. 22.....				.59	.44						0	0	124	6.0	.2	1.0	.42	187	95	95	.4	349	4.1	
Nov. 23.....				2.8	1.6						0	0	330	13	.5	1.7	.13	495	240	240	.8	784	4.0	
Nov. 27.....				.96	.71						0	0	172	8.0	.2	.8	.10	258	138	138	.3	444	4.2	
Nov. 30.....				.38	.66						3	0	107	6.0	.2	1.3	.06	172	97	94	--	286	5.4	
Dec. 3.....				3.0	1.5						0	0	228	11	.4	2.4	.10	352	206	206	.2	545	4.3	
Dec. 17.....				.75	.56						2	0	57	2.0	.1	1.6	.18	90	47	46	--	141	5.8	
Dec. 25.....				1.8	.51						0	0	91	6.0	.2	1.8	.20	154	76	76	.2	248	4.3	
Jan. 2, 1967.				3.3	1.0						0	0	204	11	.3	2.9	.21	337	164	164	.3	488	4.2	
Jan. 14.....				1.1	.10						0	0	79	5.0	.1	2.2	.22	141	64	64	.2	209	4.4	
Jan. 22.....				2.0	.40						0	0	106	5.0	.2	2.4	.29	169	78	78	.4	296	4.2	
Feb. 2.....				2.0	.85						0	0	155	8.0	.2	2.9	.10	247	122	122	.2	420	4.0	
Feb. 10.....				1.2	.44						2	0	64	4.0	.0	2.4	.08	115	62	60	--	176	5.3	
Feb. 23.....				1.2	.59						4	0	102	8.0	.1	3.2	.05	166	90	87	--	259	5.3	
Mar. 1.....				1.0	.73						1	0	69	4.0	.1	2.8	.00	130	59	58	--	197	4.6	
Mar. 18.....				1.9	.80						0	0	93	2.0	.1	2.4	.00	172	79	79	.4	249	4.4	
Mar. 31.....				1.6	.92						0	0	146	3.0	.2	2.7	.00	242	114	114	.6	379	4.0	
Apr. 10.....				--	--						--	--	--	--	--	--	--	--	--	--	--	868	--	
Apr. 21.....				.96	.43						0	0	145	2.0	.2	2.0	.08	244	114	114	.5	365	4.1	
Apr. 25.....				1.8	.68						0	0	178	3.0	.2	2.6	.05	296	142	142	.4	421	4.1	
May 10.....				.90	.72						4	0	112	2.0	.1	2.4	.05	154	104	101	--	271	6.1	
May 18.....				2.7	.94						2	0	68	2.0	.1	1.2	.08	115	63	62	--	175	5.4	
May 31.....				2.6	1.4						0	0	228	5.0	.3	3.0	.10	316	174	174	1.0	542	3.8	
June 6.....											0	0	141	.0	--	2.1	.03	240	109	109	.7	375	4.0	
June 16.....				1.6	.83						0	0	218	3.0	.3	.6	.22	340	140	140	1.6	600	3.5	
June 23.....				4.4	.82						0	0	328	4.0	.4	.6	.00	564	192	192	2.4	921	3.2	
July 1.....				1.7	1.4						0	0	338	6.0	.3	.6	.00	478	220	220	2.0	896	3.3	
July 12.....				2.8	1.8						0	0	438	7.0	.5	.6	.00	642	297	297	2.2	1090	3.3	
July 28.....				4.6	2.2						0	0	574	10	.5	.6	.00	822	385	385	2.8	1360	3.2	
Aug. 4.....				.61	1.8						0	0	376	8.0	.6	1.6	.06	552	275	275	1.8	914	3.5	
Aug. 16.....				.18	.47						0	0	121	4.0	.2	.5	.03	188	95	95	.8	372	3.9	
Aug. 22.....				1.1	1.0						0	0	206	6.0	.3	.1	.10	328	135	135	1.0	589	3.6	
Sept. 4.....				1.3	1.2						0	0	244	6.0	.3	.1	.14	352	157	157	1.3	678	3.4	
Sept. 18.....				1.1	1.6						0	0	326	9.0	.4	.3	.08	478	225	225	1.4	822	3.5	
Sept. 30.....				1.3	.92						0	0	144	6.0	.2	2.2	.08	240	120	120	.3	402	4.0	

3-0630. MONONGAHELA RIVER AT LOCK AND DAM 8, AT POINT MARION, PA.--Continued

Specific conductance (micromhos at 25°C), water year October 1966 to September 1967
(Once-daily measurement between 0700 and 0900)

Day	October	November	December	January	February	March	April	May	June	July	August	September
1.....	607	418	291	273	385	197	385	468	617	896	624	663
2.....	573	484	341	488	420	206	436	476	624	933	530	641
3.....	564	458	545	314	420	293	454	443	518	958	779	695
4.....	758	385	280	247	343	261	577	454	451	1020	914	678
5.....	531	397	243	228	300	255	603	442	383	1050	616	609
6.....	546	423	245	219	300	318	624	442	375	1070	903	649
7.....	237	441	242	221	227	--	609	493	415	1040	676	631
8.....	215	467	207	231	187	--	588	210	422	1080	567	667
9.....	211	496	208	234	--	264	666	232	445	1110	487	734
10.....	209	456	282	228	176	225	668	271	418	1120	503	688
11.....	222	418	351	242	176	226	594	204	460	1130	434	707
12.....	257	418	256	223	184	224	374	179	476	1090	445	771
13.....	274	433	288	226	209	280	365	289	486	1040	465	805
14.....	237	407	240	209	212	232	380	213	509	1030	456	784
15.....	255	445	167	219	236	326	378	213	551	1030	384	800
16.....	253	404	148	256	305	254	383	243	600	1050	372	770
17.....	250	418	141	298	322	270	402	289	621	1180	434	809
18.....	266	476	151	328	268	249	469	175	730	1170	538	822
19.....	311	456	148	347	251	215	384	184	651	1150	528	784
20.....	339	509	175	314	270	210	372	176	691	1120	538	755
21.....	314	639	184	264	300	216	365	223	707	1090	576	746
22.....	349	702	202	296	243	276	375	184	808	1100	589	665
23.....	378	784	214	311	259	367	463	188	921	1100	659	635
24.....	371	678	262	334	305	204	432	215	919	1130	721	610
25.....	374	581	248	334	205	205	421	295	864	1080	771	556
26.....	464	486	286	350	188	198	432	344	852	1060	731	576
27.....	434	444	310	298	180	208	460	370	830	1170	728	580
28.....	420	420	354	314	--	224	401	338	817	1360	746	531
29.....	452	420	358	334	--	323	375	446	789	1250	687	564
30.....	456	286	323	354	--	374	378	484	788	1140	682	402
31.....	458	--	276	389	--	379	--	542	--	901	689	--
Average	377	474	256	287	264	257	467	313	624	1090	605	677

Temperature (°F) of water, water year October 1966 to September 1967
(Once-daily measurement between 0700 and 0900)

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October	62	60	69	66	68	56	56	56	56	60	57	56	58	58	58	60	61	60	58	58	56	56	58	58	56	57	56	56	56	54	54	58
November	55	54	52	52	51	52	48	51	52	52	50	51	62	54	50	49	50	53	52	50	47	48	49	54	48	50	48	--	46	47	--	51
December	47	45	40	39	42	42	41	44	44	46	46	46	43	42	43	46	41	45	42	43	43	44	43	42	40	38	36	39	36	36	35	42
January.....	36	37	35	35	35	35	35	37	--	35	36	36	37	37	39	37	38	37	36	35	36	35	38	38	38	40	41	40	37	40	38	37
February.....	39	42	42	40	40	39	37	36	--	37	37	37	37	37	39	39	39	37	38	40	38	36	37	35	36	34	36	--	--	--	--	38
March.....	35	35	36	38	40	40	--	--	--	45	45	45	--	49	49	47	45	45	44	46	45	49	45	46	47	46	46	48	50	50	51	45
April.....	51	53	55	57	56	57	58	56	58	58	56	54	56	56	59	58	59	58	57	56	58	56	56	55	57	56	55	55	55	55	--	56
May.....	55	57	54	57	57	57	56	54	51	52	58	58	55	55	56	55	55	55	56	56	56	55	55	58	58	59	60	62	64	63	64	57
June	65	65	65	64	64	65	66	67	68	69	71	72	73	73	75	76	80	77	76	78	77	77	78	78	78	78	77	76	--	77	--	73
July.....	77	77	77	76	76	77	76	77	77	77	79	79	79	77	73	75	77	76	76	78	78	76	77	79	79	77	77	78	79	77	77	77
August.....	76	77	78	78	76	76	76	75	74	74	72	72	74	74	74	73	75	74	75	74	74	74	74	73	74	75	75	74	74	73	74	75
September.....	70	70	71	71	73	72	72	74	73	71	70	69	71	69	68	68	70	--	71	71	72	68	70	70	69	68	68	68	67	59	--	70

MONONGAHELA RIVER BASIN--Continued

3-0716. CHEAT RIVER AT LAKE LYNN, PA.

LOCATION.--Lat 39°43'15", long 79°51'20", at the Lake Lynn hydroelectric plant of the West Penn Power Company at Lake Lynn, Fayette County, 3 miles upstream from the mouth.
DRAINAGE AREA.--1,411 square miles.
RECORDS AVAILABLE.--Water temperatures: October 1948 to September 1967.
EXTREMES, 1948-67.--Water temperatures: Maximum, 86°F July 28, 29, 1964; minimum, 33°F on several days during winter months most years.
REMARKS.--Records furnished by the West Penn Power Company.

Temperature (°F) of water, water year October 1966 to September 1967

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October	--	--	64	62	58	59	62	--	--	59	59	--	59	60	--	--	--	56	56	56	56	--	--	54	54	54	54	56	--	--	52	--
November	54	55	55	54	--	--	54	54	55	54	--	--	--	53	52	52	52	--	--	--	51	51	52	--	52	--	--	51	51	49	--	--
December	49	48	--	--	41	43	44	44	--	--	--	44	46	47	--	47	--	--	46	46	46	46	44	--	--	--	--	--	43	--	--	--
January	--	--	40	40	39	37	--	--	--	35	37	35	36	--	--	35	37	36	36	36	--	--	37	37	40	38	38	--	--	40	42	--
February	--	41	--	--	--	38	38	38	38	38	--	--	38	38	39	38	37	--	--	38	38	--	38	36	--	--	35	34	--	--	--	--
March	34	35	--	--	--	--	--	--	--	42	--	--	44	48	50	48	--	--	--	42	40	38	40	--	--	--	46	49	--	57	57	--
April	--	--	55	53	56	56	55	--	--	56	54	54	54	56	--	--	59	57	56	56	--	--	--	56	56	54	56	52	--	--	--	--
May	--	58	56	56	58	--	--	54	48	48	50	50	--	--	55	52	56	58	56	--	--	56	56	57	--	58	--	--	64	64	64	--
June	64	66	--	--	69	69	73	75	76	--	--	78	78	80	80	81	--	--	78	78	80	80	78	--	--	76	79	78	78	78	--	--
July	--	--	78	--	76	77	77	--	--	80	78	--	78	--	--	--	78	79	80	79	76	--	--	78	79	79	78	78	--	--	79	--
August	79	79	79	79	--	--	78	78	78	78	77	--	--	77	78	77	78	78	--	--	78	78	77	74	76	--	--	76	76	76	76	--
September	--	--	--	--	72	72	76	74	--	--	71	72	71	71	72	--	--	73	73	75	74	72	--	--	70	--	70	68	64	--	--	--

3-0851.2. MONONGAHELA RIVER AT SOUTH PITTSBURGH, PA.

LOCATION.--Lat 40°24'36", long 79°57'15", at South Pittsburgh Water Company raw water intake line, just upstream from Becks Run, at South Pittsburgh, Allegheny County.
RECORDS AVAILABLE.--Chemical analyses: January 1966 to September 1967 (discontinued).
Water temperatures: January 1966 to September 1967 (discontinued).
EXTREMES, 1966-67.--Specific conductance: Maximum daily, 811 micromhos Sept. 4, 5; minimum daily, 206 micromhos May 11.
Water temperatures: Maximum, 89°F June 16-18; minimum, 40°F Jan. 17.
EXTREMES, January 1966 to September 1967.--Specific conductance: Maximum daily, 968 micromhos Sept. 30, 1966; minimum daily, 178 micromhos May 7, 1966.
Water temperatures: Maximum, 92°F June 28 to July 2, 1966; minimum, 40°F Feb. 18, 1966 and Jan. 17, 1967.
REMARKS.--Daily samples were collected at this station and samples were selected for analysis on the following basis: (1) Maximum daily specific conductance for each month, (2) minimum daily specific conductance for each month, (3) median daily specific conductance for each month, and (4) a composite analysis each month to determine heavy metals. Samples for iron and manganese were filtered clear when collected. No discharge records available.

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Lithium (Li)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Phosphorus as PO_4	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 5, 1966.				0.03	0.44						2	0	107	8.0	0.2	2.8	0.26	178	86	84	--	287	4.7	
Oct. 17.....				.03	.49						0	0	160	12	.4	7.1	.19	263	126	126	0.3	430	4.4	
Oct. 23.....				.12	1.0						0	0	234	16	.1	5.6	.06	382	186	186	.2	590	4.2	
Nov. 3.....				.21	.47						4	0	138	17	.4	5.6	.08	254	118	115	--	402	6.0	
Nov. 18.....				.25	.63						2	0	153	14	.2	5.4	.56	279	130	129	--	455	4.6	
Nov. 30.....				.17	.39						4	0	111	14	.2	4.4	.14	230	102	99	--	355	5.5	
Dec. 2.....				.15	.10						4	0	168	18	.2	4.1	1.1	285	130	127	--	443	5.4	
Dec. 13.....				.11	.12						6	0	76	10	.1	3.1	.54	127	78	73	--	218	5.9	
Dec. 27.....				.21	.10						6	0	95	12	.1	5.2	.09	173	84	79	--	280	6.1	
Jan. 1, 1967.				.73	.55						2	0	108	10	.1	3.9	.09	191	89	88	--	299	5.3	
Jan. 8.....				.93	.45						0	0	118	10	.2	3.9	.05	194	94	94	.2	332	4.4	
Jan. 22.....				1.0	.77						0	0	144	14	.2	6.9	.03	243	118	118	.2	399	4.4	
Feb. 1.....				.93	1.1						0	0	127	15	.3	5.7	.00	230	101	101	.2	372	4.2	
Feb. 5.....				.49	.40						4	0	85	10	.2	4.6	.05	148	76	73	--	247	5.8	
Feb. 24.....				.64	.46						4	0	97	9.0	.1	3.2	.00	182	86	83	--	268	5.8	
Mar. 2.....				.61	.86						6	0	118	15	.2	3.8	.00	212	106	101	--	346	6.2	
Mar. 7.....				1.3	1.1						3	0	73	5.0	.1	5.1	.00	122	73	70	--	211	5.0	
Mar. 17.....				.68	.71						0	0	97	5.0	.2	2.6	.00	180	86	86	.3	265	4.4	
Apr. 1.....				1.1	.22						2	0	104	6.0	.2	2.5	.02	160	96	94	--	274	4.9	
Apr. 15.....				.28	.19						2	0	193	9.0	.3	3.0	.04	299	160	159	--	458	4.7	
Apr. 21.....				.84	.23						2	0	131	8.0	.2	2.8	.04	196	112	111	--	336	5.0	
May 7.....				.11	.06						7	0	149	10	.2	3.4	.09	246	132	127	--	378	6.6	
May 11.....				.09	.10						5	0	81	5.0	.1	2.1	.11	122	74	70	--	206	5.9	
May 26.....				.10	.06						6	0	93	6.0	.2	2.6	.08	151	86	81	--	245	6.3	
June 1.....				.28	.19						3	0	133	8.0	.3	1.9	.08	204	112	110	--	332	5.6	
June 20.....				.06	.56						0	0	255	14	.4	4.0	.08	411	195	195	.2	614	4.3	
June 27.....				.05	.55						0	0	304	18	.5	6.0	.09	491	234	234	.3	727	4.1	
July 13.....				.19	1.1						0	0	277	13	.2	4.2	.02	434	200	200	.2	667	4.4	
July 19.....				.40	1.4						0	0	328	14	.4	3.3	.00	528	225	225	1.0	766	4.2	
July 31.....				.10	.92						2	0	197	11	.2	4.0	.00	282	154	153	--	492	4.8	
Aug. 1.....				.30	.70						2	0	183	10	.3	3.4	.09	292	140	139	--	456	5.1	
Aug. 4.....				.23	2.0						0	0	342	13	.5	2.9	.07	540	245	245	.8	790	4.1	
Aug. 28.....				.59	.52						18	0	225	14	.3	5.4	.07	356	140	125	--	570	6.8	
Sept. 4.....				.29	1.7						4	0	368	15	.3	1.8	.31	580	276	273	--	811	5.1	
Sept. 8.....				.18	1.2						4	0	258	14	.2	1.6	.17	396	191	188	--	608	5.1	
Sept. 29.....				.27	.88						4	0	209	12	.4	1.8	.11	324	152	149	--	510	5.1	

3-0851.2. MONONGAHELA RIVER AT SOUTH PITTSBURGH, PA.--Continued

Additional determinations of heavy metals

Chemical analyses, in parts per million, water year October 1966 to September 1967--Continued

Date of collection	Mean discharge (cfs)	Chromium		Nickel (Ni)	Copper (Cu)	Lead (Pb)	Zinc (Zn)	Cobalt (Co)	Arsenic (As)	Selenium (Se)	Cadmium (Cd)
		Total Cr	Cr^6								
Oct. 1-31, 1966.....		0.00		0.00	0.30	0.00	0.20	0.00	0.00		0.00
Nov. 1-30.....		.00		.00	.00	.00	.18	.00	.00		.01
Dec. 1-31.....		.00		.02	.02	.00	.09	.00	.00		.00
Jan. 1-31, 1967.....		.00		.13	.03	.04	.16	.09	.00		.00
Feb. 1-28.....		.00		.04	.02	.03	.07	.01	.00		.00
Mar. 1-31.....		.00		.07	.23	.31	.11	--	.00		.00
Apr. 1-30.....		.00		.02	.21	.00	.08	.03	.00		.03
May 1-31.....		.00		.01	.02	.00	.04	.01	.03		.00
June 1-30.....		.00		.04	.58	.00	.30	.05	.00		.00
July 1-31.....		.00		.12	.48	.01	.30	.20	.00		.00
Aug. 1-31.....		.00		.17	.26	.02	.21	.03	.00		.00
Sept. 1-30.....		.01		.00	.25	.03	.22	.04	.00		.00

Specific conductance (micromhos at 25°C), water year October 1966 to September 1967

Day	October	November	December	January	February	March	April	May	June	July	August	September
1.....	447	421	376	299	372	314	274	347	332	734	456	638
2.....	444	418	443	320	257	346	314	357	347	736	531	800
3.....	392	402	300	323	279	331	336	350	370	734	661	800
4.....	358	401	302	344	247	--	342	353	363	739	790	811
5.....	287	398	326	315	247	288	366	370	363	646	566	811
6.....	297	400	323	326	255	288	377	367	403	644	569	771
7.....	315	399	291	326	255	211	393	378	492	653	570	646
8.....	299	405	298	332	268	--	296	360	467	651	521	608
9.....	326	387	247	335	302	--	296	238	470	695	571	612
10.....	329	397	247	335	338	267	298	221	562	697	635	570
11.....	342	404	250	379	335	258	322	206	566	717	556	573
12.....	351	396	233	399	338	260	291	235	550	642	563	575
13.....	377	398	218	348	317	256	308	259	566	667	565	544
14.....	377	380	302	309	320	269	417	259	558	702	578	552
15.....	410	376	305	309	281	312	458	257	632	700	586	561
16.....	414	409	276	302	304	269	431	250	651	702	555	557
17.....	430	410	245	302	268	265	452	230	646	702	531	552
18.....	509	455	300	323	255	253	385	222	617	746	557	555
19.....	534	441	302	317	262	255	352	245	596	766	595	571
20.....	536	425	293	329	268	250	339	211	614	689	668	562
21.....	581	423	257	393	252	253	336	211	613	673	643	575
22.....	585	387	253	399	250	251	330	216	614	605	613	619
23.....	590	384	240	393	252	236	330	220	637	621	547	636
24.....	586	432	259	344	268	246	330	233	676	619	566	635
25.....	522	448	257	315	287	234	330	220	638	553	589	634
26.....	525	447	259	332	287	234	333	245	624	589	599	631
27.....	572	444	280	329	287	234	333	260	727	611	584	611
28.....	502	428	282	344	283	242	324	290	688	559	570	596
29.....	444	391	276	344	--	269	349	322	638	531	564	510
30.....	416	355	260	348	--	267	346	349	713	505	608	556
31.....	414	--	298	317	--	283	--	352	--	492	682	--
Average	435	408	283	336	283	265	346	278	557	655	586	622

MONONGAHELA RIVER BASIN--Continued

3-0851.2. MONONGAHELA RIVER AT SOUTH PITTSBURGH, PA.--Continued

Temperature (°F) of water, water year October 1966 to September 1967

Month	Day																															Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October	74	73	72	71	70	70	69	69	68	70	71	70	70	71	70	70	70	70	69	69	69	68	68	67	69	68	68	68	68	68	67	69
November	67	66	64	62	64	62	59	58	60	60	61	64	64	60	60	60	60	60	59	59	60	60	59	59	59	60	60	57	55	53	--	60
December	51	50	50	49	47	47	49	51	50	51	50	51	50	49	48	48	50	50	50	50	50	50	50	--	--	--	47	47	46	46	46	49
January.....	45	45	45	44	45	44	44	44	45	45	44	43	43	43	43	44	40	42	44	46	46	46	47	48	48	49	49	48	47	46	46	45
February.....	45	46	44	45	45	45	45	42	42	46	46	46	46	44	46	47	46	44	44	44	46	46	46	46	44	44	44	43	--	--	--	45
March.....	43	44	44	--	46	--	--	--	--	50	51	51	52	52	55	55	54	54	54	54	54	51	51	52	52	52	52	52	54	54	58	52
April.....	60	63	63	63	63	64	63	64	64	60	72	67	64	72	66	60	67	67	68	68	68	68	68	63	63	62	70	70	63	64	--	65
May.....	64	64	66	65	70	65	70	70	70	70	62	61	60	60	63	63	62	62	62	62	62	62	63	63	63	64	64	64	72	72	72	65
June	72	73	70	70	74	74	76	78	78	80	80	80	80	84	84	89	89	89	84	86	86	86	86	86	86	86	87	87	88	88	--	82
July.....	85	85	80	87	85	85	85	85	85	85	86	86	86	86	86	86	86	86	85	85	85	85	85	85	85	85	85	88	88	88	88	86
August.....	85	85	85	85	86	85	85	86	86	87	86	87	87	87	--	86	86	86	86	86	86	87	87	87	86	87	87	81	81	81	84	86
September	84	83	83	83	73	84	84	84	84	84	80	80	81	81	81	81	81	81	81	82	81	83	83	83	82	82	82	80	80	81	--	82

MISCELLANEOUS ANALYSES OF STREAMS IN OHIO RIVER BASIN

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
POTATO CREEK BASIN																					
3-0090. POTATO CREEK AT BETULA, PA. (lat 41°40'15", long 78°23'11")																					
Apr. 20, 1967..	93.5							A2.5		5	16	2.5		0.4		19	15		58	6.0	4
Sept. 27.....	3.8							A3.9		15	25	5.0		.1		37	25		103	6.6	3
OSWAYO CREEK BASIN																					
3-0106.5. OSWAYO CREEK AT CONEVILLE, PA. (lat 41°54'29", 78°03'26")																					
Apr. 20, 1967..	85.1							A3.0		15	11	3.0		0.5		22	10		59	6.4	5
Sept. 27.....	9.4							A6.0		93	14	4.5		.0		84	8		187	7.9	7
KINZUA CREEK BASIN																					
3-0118. KINZUA CREEK AT TALLYHO, PA. (lat 41°45'59", long 78°43'08")																					
Apr. 19, 1967..	B139							A39		10	13	87		0.2		60	52		322	6.5	5
CONEWANGO CREEK BASIN																					
3-0150. CONEWANGO CREEK AT RUSSELL, PA. (lat 41°56'20", long 79°07'55")																					
Oct. 18, 1966..	B210	4.5		0.00	0.00	38	7.0	9.0	4.0	112	26	15	0.2	0.2	168	124	32		274	7.5	2
BROKENSTRAW CREEK BASIN																					
3-0155. BROKENSTRAW CREEK AT YOUNGSVILLE, PA. (lat 41°51'10", long 79°19'05")																					
Oct. 18, 1966..	B95	4.0		0.00	0.00	36	7.0	5.5	1.8	114	20	8.7	0.1	0.4	142	119	26		243	8.0	2
EAST HICKORY CREEK BASIN																					
3-0158. EAST HICKORY CREEK AT ENDEAVOR, PA. (lat 41°36'17", long 79°22'27")																					
Apr. 19, 1967..	133							A5.1		10	14	1.5		0.4		14	6		45	5.9	8
Sept. 28.....	35.4							A6.4		20	8.0	5.0		.0		18	2		61	7.3	3
OIL CREEK BASIN																					
3-0204.2. FIVEMILE CREEK NEAR BUELLS CORNERS, PA. (lat 41°47'02", long 79°41'09")																					
Apr. 20, 1967..	23.5							A3.0		34	16	2.0		0.3		41	13		100	6.8	10
3-0204.5. CALDWELL CREEK NEAR TITUSVILLE, PA. (lat 41°41'09", long 79°34'30")																					
Apr. 20, 1967..	61.6							A9.0		17	12	14		0.4		27	13		104	6.4	5
FRENCH CREEK BASIN																					
3-0240. FRENCH CREEK AT UTICA, PA. (lat 41°26'15", long 79°57'20")																					
Jan. 19, 1967..	B680							A12		84	32	14		1.0		96	27		240	6.6	8
Feb. 23.....	B1100							A7.6		62	26	14		1.3		82	31		199	7.2	2
May 11.....	B5420							A5.1		48	20	6.0		1.2		59	20		145	6.7	18
Sept. 28.....	B1500	3.8		0.02	0.00	30	5.3	5.6	1.6	88	21	9.0	0.1	.4	114	97	25		208	7.2	7

A Calculated Na plus K, reported as Na.
B Daily mean discharge.

MISCELLANEOUS ANALYSES OF STREAMS IN OHIO RIVER BASIN--Continued

Chemical analyses, in parts per million, water year October 1966 to September 1967--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
FRENCH CREEK BASIN--Continued																					
3-0242. WEST BRANCH SUGAR CREEK NEAR BRADLEYTOWN, PA. (lat 41°34'31", long 79°51'54")																					
Apr. 18, 1967..	24.5							A2.3		30	17	4.0		0.6		43	19		103	6.7	20
Sept. 26.....	.4							A6.2		96	18	3.5		.6		89	11		200	7.2	5
EAST SANDY CREEK BASIN																					
3-0258. EAST SANDY CREEK AT VAN, PA. (lat 41°19'03", long 79°39'22")																					
Apr. 18, 1967..	178							A6.0		3	37	8.0		0.7		40	38		127	5.8	3
Sept. 27.....	8.4					18	7.4	A34		43	63	34		.0		76	41		320	7.2	2
SANDY CREEK BASIN																					
3-0259. SANDY CREEK NEAR SHEAKLEYVILLE, PA. (lat 41°25'51", long 80°10'02")																					
Apr. 19, 1967..	116							A3.9		50	26	5.5		0.5		68	27		159	6.6	30
Sept. 26.....	1.8							A19		128	25	6.0		.0		98	0		267	7.6	5
CLARION RIVER BASIN																					
3-0295. CLARION RIVER AT COOKSBURG, PA. (lat 41°19'50", long 79°12'35")																					
Jan. 26, 1967..	B1520	15		0.03	0.00	15	3.8	13	1.5	23	41	15	0.0	0.7	129	53	34		180	6.1	4
Feb. 14.....	B834	--		--	--	--	--	A9.4	--	15	39	10	--	.6	--	47	35		145	6.7	5
Feb. 24.....	B870	--		--	--	--	--	A9.9	--	8	79	16	--	.7	--	90	84		244	6.5	6
Mar. 20.....	B2470	5.6		.03	.00	15	4.2	7.0	1.1	8	40	14	.2	.6	119	55	49		143	6.0	2
May 10.....	B3570	--		--	--	--	--	A1.6	--	6	24	2.5	--	.0	--	30	25		84	6.2	6
July 12.....	B1750	8.5		.00	.00	12	3.5	9.5	1.2	10	31	18	.1	.2	109	45	37		155	6.5	6
Aug. 15.....	B403	8.5		.00	.00	18	4.9	13	1.2	17	48	20	.2	.3	135	65	51		203	7.0	5
Sept. 21.....	B305	8.4		.00	.00	28	7.0	17	1.6	22	68	30	.0	.2	191	99	81		286	6.8	11
3-0305. CLARION RIVER NEAR PINEY, PA. (lat 41°11'33", long 79°26'25")																					
Oct. 4, 1966...	B338	4.9	0.1	0.00	0.65	31	10	16	1.8	3	116	26	0.3	0.2	240	119	116		345	5.6	2
Jan. 26, 1967..	B2500	5.5		.21	.00	29	9.2	16	1.9	18	96	27	.0	.4	240	111	96		326	6.2	15
Feb. 15.....	B1680	--		--	--	--	--	A8.0	--	9	52	9.5	--	.6	--	58	51		165	6.5	2
Feb. 23.....	B1570	--		--	--	--	--	A12	--	13	63	16	--	.6	--	72	62		217	6.5	10
Mar. 21.....	B3120	--		--	--	--	--	A6.0	--	2	43	7.0	--	.8	--	44	43		136	5.1	2
May 5.....	B2000	--		--	--	--	--	A9.7	--	4	71	8.5	--	.4	--	69	66		192	5.7	4
Aug. 23.....	B562	--		--	--	--	--	A13	--	7	69	18	--	.4	--	76	71		225	5.8	1
Aug. 30.....	B787	--		--	--	--	--	A15	--	2	142	18	--	.0	--	143	142		372	4.7	1
REDBANK CREEK BASIN																					
3-0318. MILL CREEK AT ALLENS MILLS, PA. (lat 41°12'01", long 78°54'23")																					
Apr. 17, 1967..	14.0							3.7		23	54	6.0		0.6		77	57		184	6.4	5
KISKIMINETAS RIVER BASIN																					
3-0398. CLEAR SHADE CREEK AT OGLETOWN, PA. (lat 40°12'15", long 78°42'18")																					
Apr. 12, 1967..	24.8							A2.8		9	7.3	1.0		1.7		12	5		37	6.4	5
Sept. 26.....	13.1					5.2	1.0	A3.4		15	8.8	1.0		1.6		17	5		51	6.5	2

A Calculated Na plus K, reported as Na.
B Daily mean discharge.

MISCELLANEOUS ANALYSES OF STREAMS IN OHIO RIVER BASIN--Continued

Chemical analyses, in parts per million, water year October 1966 to September 1967--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
BUFFALO CREEK BASIN																					
3-0488. PATTERSON CREEK NEAR WORTHINGTON, PA. (lat 40°52'40", long 79°38'26")																					
Apr. 17, 1967..	25.8							A5.1		18	30	9.5		0.6		49	34		135	6.4	5
Sept. 19.....	.3					56	15	A16		103	121	18		.0		201	117		465	7.6	2
CHARTIERS RUN BASIN																					
3-0496. CHARTIERS RUN NEAR LEECHBURG, PA. (lat 40°36'00", long 79°41'08")																					
Apr. 17, 1967..	10.2							A15		34	52	24		3.0		86	58		252	6.6	20
Sept. 19.....	.2							A24		92	42	36		.0		118	43		343	7.2	1
MONONGAHELA RIVER BASIN																					
3-0728.5. SOUTH FORK TENMILE CREEK NEAR ROGERSVILLE, PA. (lat 39°53'00", long 80°18'59")																					
Apr. 14, 1967..	11.7							A8.7		61	32	13		1.1		84	34		212	7.0	5
Sept. 20.....	.1							A23		100	31	48		.0		131	49		365	7.4	5
3-0743. LICK RUN AT HOPWOOD, PA. (lat 39°52'04", long 79°41'40")																					
Apr. 13, 1967..	B7.0							A15		15	19	28		4.0		42	30		168	6.5	3
3-0787. ELKLICK CREEK AT SUMMIT MILLS, PA. (lat 39°48'41", long 79°04'01")																					
Apr. 13, 1967..	36.7							A3.0		11	21	3.0		3.1		31	22		82	6.2	3
Sept. 26.....	3.5					13	4.1	A6.7		36	29	3.0		.4		50	20		127	7.1	2
3-0788. COXES CREEK NEAR ROCKWOOD, PA. (lat 39°57'26", long 79°06'13")																					
Apr. 13, 1967..	68.0							A13		20	51	18		5.2		70	54		219	6.6	5
Sept. 26.....	5.8					44	11	A30		56	105	37		15		155	109		460	6.8	3
3-0812. DRAKE RUN NEAR CONFLUENCE, PA. (lat 39°51'39", long 79°21'50")																					
Apr. 13, 1967..	22.0							A2.8		4	8.7	3.5		0.6		12	9		41	5.9	5
3-0821. INDIAN CREEK NEAR MELCROFT, PA. (lat 40°03'37", long 79°21'53")																					
Apr. 12, 1967..	158							A6.2		15	12	9.5		2.3		27	15		90	6.5	5
3-0825. YOUGHIOGHENY RIVER AT CONNELLSVILLE, PA. (lat 40°01'05", long 79°35'40")																					
Nov. 28, 1966..	B2720	4.0		0.00	0.00	16	3.2	2.5	1.0	14	40	5.3	0.2	1.4	85	53	42		130	7.0	2
Jan. 5, 1967...	B1260	3.6	0.0	.01	.00	13	3.0	5.0	1.5	8	37	9.0	.1	2.7	88	45	39		130	5.8	2
Feb. 8.....	B1500	--		--	--	--	--	A6.7	--	5	37	9.0	--	4.4	--	44	40		128	6.1	1
Feb. 16.....	B2270	--		--	--	--	--	A6.0	--	5	40	8.5	--	2.9	--	47	43		135	6.1	3
Mar. 13.....	B10100	4.2		.00	.00	10	2.7	3.4	1.1	7	29	7.0	.1	2.0	64	36	31		102	6.6	4
Apr. 26.....	B3450	--		--	--	--	--	A6.9	--	9	34	4.5	--	2.0	--	36	29		102	6.2	7
June 2.....	B2430	--		--	--	--	--	A3.4	--	6	34	4.5	--	2.1	--	41	36		109	6.1	2
3-0832. SEWICKLEY CREEK TRIBUTARY NEAR NEW STANTON, PA. (lat 40°12'42", long 79°39'27")																					
Apr. 12, 1967..	9.5							A7.6		41	39	11		1.4		74	41		189	6.8	5
Sept. 26.....	1.0					34	8.0	A18		83	51	26		.9		118	50		322	7.1	4

A Calculated Na plus K, reported as Na.
B Daily mean discharge.

MISCELLANEOUS ANALYSES OF STREAMS IN OHIO RIVER BASIN--Continued

Chemical analyses, in parts per million, water year October 1966 to September 1967--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
MONONGAHELA RIVER BASIN--Continued																					
3-0850. MONONGAHELA RIVER AT BRADDOCK, PA. (lat 40°23'30", long 79°51'30")																					
Oct. 10, 1966..	B2880	5.8	0.2	0.00	0.59	29	7.5	18	31	3	127	9.7	0.4	4.0	229	104	101		322	5.3	5
Nov. 14.....	B4400	5.1	.2	--	.00	28	7.5	24	3.0	4	139	11	.3	3.9	240	101	98		364	5.9	2
Jan. 23, 1967..	B3720	4.5	.0	.00	.40	29	7.8	21	5.1	3	129	14	.2	7.8	227	105	102		360	5.2	2
Feb. 28.....	B9960	5.8	--	.00	.02	24	6.7	18	2.2	4	95	17	.1	3.8	179	88	84		289	6.1	3
Apr. 3.....	B9540	7.1	.5	.03	.60	31	10	16	2.1	0	136	9.0	.3	3.2	226	119	119		340	4.5	2
June 19.....	B1920	--	--	--	--	--	--	A84	--	0	248	18	--	4.6	--	105	105		592	4.2	2
OHIO RIVER MAIN STEM																					
3-0860. OHIO RIVER AT SEWICKLEY, PA. (lat 40°31'50", long 80°11'20")																					
Jan. 17, 1967..	B11700	16		0.00	0.38	33	8.8	24	3.0	24	116	20	0.3	5.3	250	119	99		368	6.2	2
Mar. 15.....	B111000	5.5	0.6	.00	.40	29	8.0	10	1.9	2	114	8.0	.2	2.2	203	106	104		289	5.0	2
May 19.....	B101000	--		--	--	--	--	A13	--	12	87	8.0	--	1.3	--	84	74		228	6.2	6
July 11.....	B8750	6.0		.00	.01	43	11	29	3.4	13	166	23	.2	5.9	316	153	142		464	5.9	1
Aug. 1.....	B14300	--		--	--	36	10	A26	--	28	122	24	--	3.4	--	131	108		399	6.7	2
Sept. 22.....	B9990	7.3		.00	.00	38	9.0	25	3.3	28	126	24	.4	4.9	269	132	109		413	6.4	2
BEAVER RIVER BASIN																					
3-1028. BIG RUN NEAR SHENANGO, PA. (lat 41°22'26", long 80°25'53")																					
Apr. 19, 1967..	23.2							A8.5		52	37	13		1.1		82	40		203	6.8	10
Sept. 26.....	.2							A12		138	31	14		.0		140	27		317	7.8	2
3-1056. CONNOQUENESSING CREEK AT BUTLER, PA. (lat 40°52'30", long 79°52'30")																					
Aug. 23, 1967..								A130		92	230	150		1.3		244	169		1050	7.1	3
3-1059. CONNOQUENESSING CREEK NEAR EIDENAU, PA. (lat 40°48'18", long 80°05'10")																					
Aug. 23, 1967..	15.1							A69		130	209	116		14		350	244		1010	6.9	1
3-1061. WOLF CREEK NEAR GROVE CITY, PA. (lat 41°14'50", long 80°03'40")																					
Apr. 19, 1967..	13.1							A4.6		44	26	8.0		0.4		65	29		157	6.7	20
Sept. 26.....	.2					45	9.3	A4.1		145	26	9.5		.5		151	32		304	8.1	3
3-1070. CONNOQUENESSING CREEK NEAR ELLWOOD CITY, PA. (lat 40°52'05", long 80°15'50")																					
Aug. 23, 1967..	28.4							A43		100	150	64		2.3		237	155		684	7.2	3
RACCOON CREEK BASIN																					
3-1078. SERVICE CREEK NEAR SHIPPINGPORT, PA. (lat 40°34'12", long 80°24'07")																					
Apr. 17, 1967..	31.7							A5.5		49	50	6.5		3.6		92	52		222	6.8	40
BUFFALO CREEK BASIN																					
3-1112. DUNKLE RUN NEAR CLAYSVILLE, PA. (lat 40°12'00", long 80°26'27")																					
Apr. 14, 1967..	11.9							A5.8		180	59	7.5		4.0		210	63		415	7.5	4

A Calculated Na plus K, reported as Na.
B Daily mean discharge.

MISCELLANEOUS ANALYSES OF STREAMS IN OHIO RIVER BASIN--Continued

Chemical analyses, in parts per million, water year October 1966 to September 1967--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
																Calcium, magnesium	Noncarbonate				
WHEELING CREEK BASIN																					
3-1116. ROBISON RUN AT WEST FINLEY, PA. (lat 40°00'08", long 80°28'23")																					
Apr. 14, 1967..	19.3							A5.8		184	60	7.5		4.5		215	64		427	8.2	5
FISH CREEK BASIN																					
3-1141. PENNSYLVANIA FORK FISH CREEK AT DEEP VALLEY, PA. (lat 39°45'18", long 80°28'13")																					
Apr. 14, 1967..	27.1							A5.1		44	26	6.5		0.2		61	25		153	6.8	4
Sept. 20.....	.1							A16		104	27	16		6.3		106	21		273	7.0	2

A Calculated Na plus K, reported as Na.

MISCELLANEOUS ANALYSES OF STREAMS IN ST. LAWRENCE RIVER BASIN

Chemical analyses, in parts per million, water year October 1966 to September 1967

Date of collection	Discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
																Calcium, magnesium	Noncarbonate				
STREAMS TRIBUTARY TO LAKE ERIE																					
4-2129. CONNEAUT CREEK NEAR CONNEAUTVILLE, PA. (lat 41°46'25", long 80°22'49")																					
Apr. 19, 1967..	76.2							A4.8		59	29	8.5		0.3		80	32		189	6.8	10
Sept. 26.....	7.6					51	11	A9.4		159	41	14		.0		172	42		360	7.5	2

A Calculated Na plus K, reported as Na.

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